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HEARINGS

BEFORE THE COMMITTEE ON MINES AND MINING HELD
IN THE COMMITTEE ROOM OF THE HOUSE
OF REPRESENTATIVES

TO CONSIDER THE QUESTION OF THE ESTABLISHMENT OF A BUREAU OF MINES.

COMMITTEE:

GEORGE F. HUFF, Pennsylvania, Chairman.	GORDON LEE, Georgia.
JOSEPH HOWELL, Utah.	GEORGE A. BARTLETT, Nevada.
W. F. ENGLEBRIGHT, California.	MARTIN D. FOSTER, Illinois.
JOSEPH W. FORDNEY, Michigan.	THOMAS D. NICHOLLS, Pennsylvania.
BURTON L. FRENCH, Idaho.	DANIEL W. HAMILTON, Iowa.
JOSEPH G. BEALE, Pennsylvania.	WINFIELD S. HAMMOND, Minnesota.
ALBERT DOUGLAS, Ohio.	THOMAS CALE, Alaska.
PHILO HALL, South Dakota.	
CHARLES N. PRAY, Montana.	

March 9, 1908

WASHINGTON
GOVERNMENT PRINTING OFFICE

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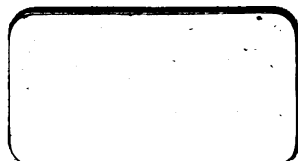


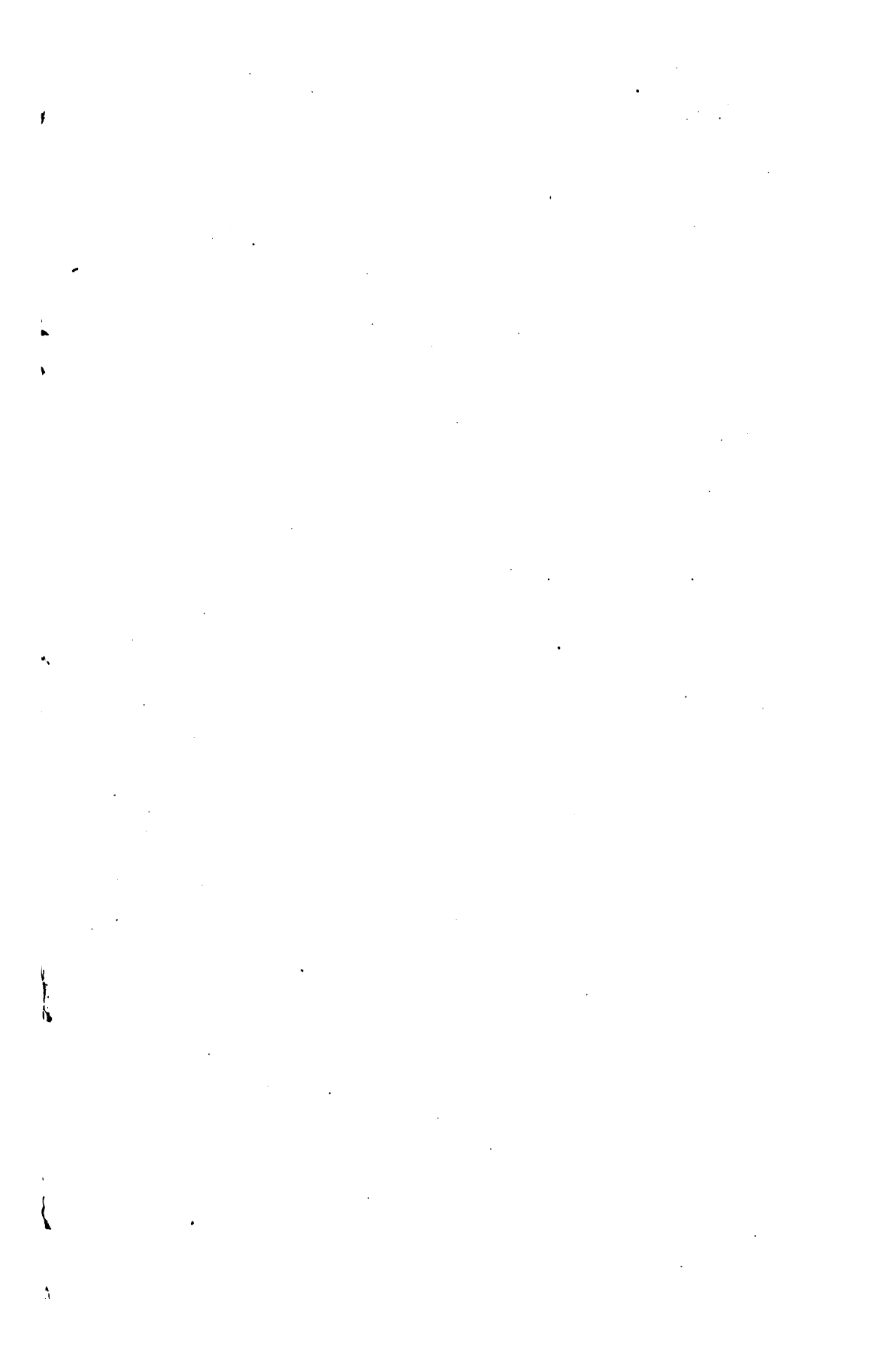


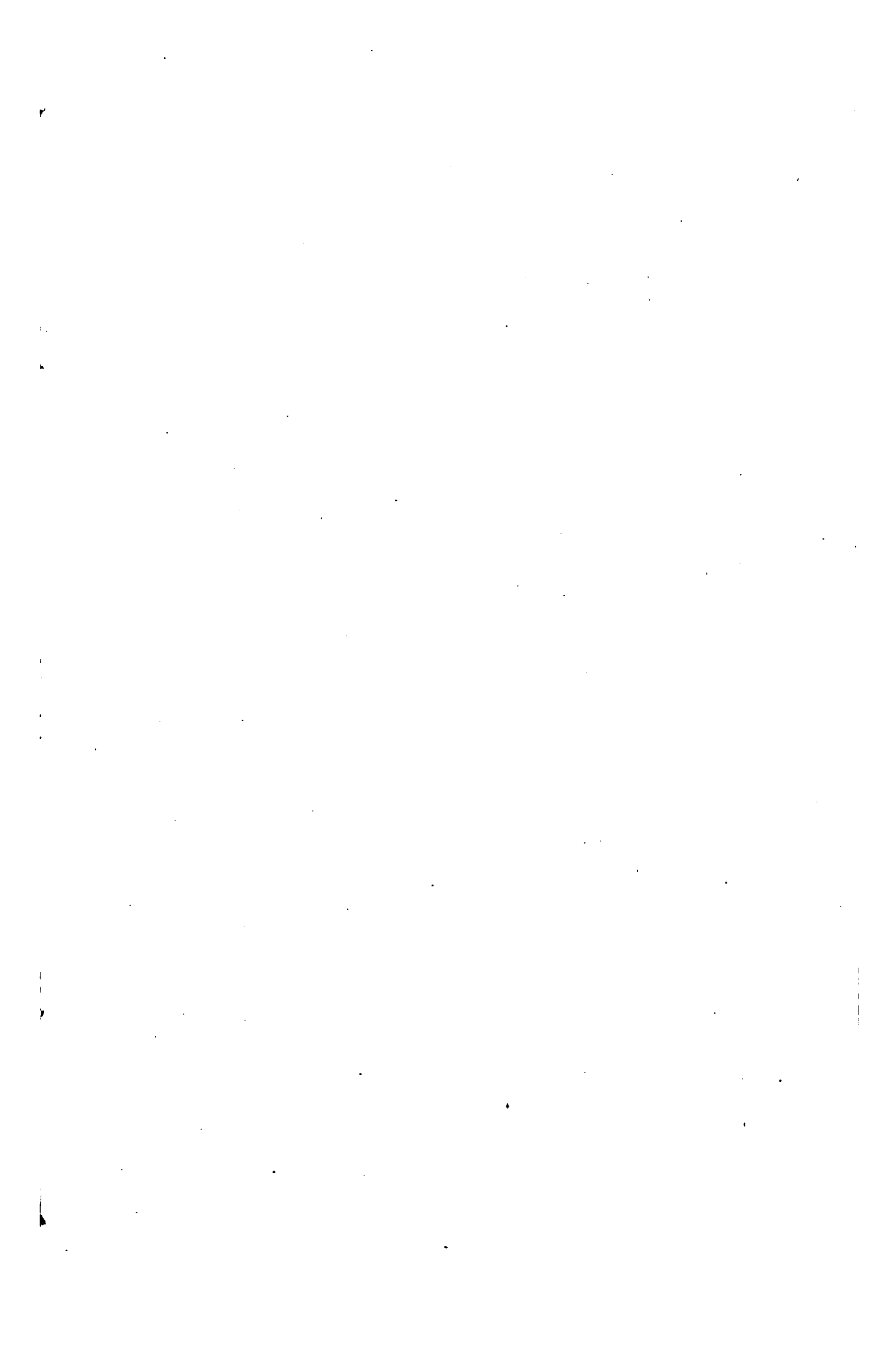
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HEARINGS

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ESTABLISHMENT OF A BUREAU OF MINES.

MONDAY, *March 9, 1908.*

The meeting was called to order at 10.45 a. m. by Representative Englebright, chairman of the subcommittee having in charge the several bills bearing upon the creation of a Bureau of Mines.

Members present: Mr. Englebright (chairman), Messrs. Douglas, Hall, Hamilton, and Bartlett.

The following persons invited to be present: Prof. I. C. White, State geologist of West Virginia; Hon. A. B. Fleming, Fairmont Coal and Coke Company, Fairmont, W. Va.; Messrs. J. H. Walker, district president of the United Mine Workers of America, Springfield, Ill.; W. D. Van Horn, president of Indiana district, U. M. W. of A.; J. M. Craig, president of West Virginia district, U. M. W. of A.; F. J. Drum, president Maryland district, U. M. W. of A.; James Purcell, of Clearfield, Pa., district president of the U. M. W. of A.; J. F. Callbreath, secretary American Mining Congress, Denver, Colo.; Representatives Wilson and Chaney.

Mr. Englebright stated the object of the hearing, as follows:

Gentlemen, during the present session of Congress there have been introduced a number of bills relative to the question of the establishment of a national department or bureau of mines, all with a view to providing the mining industries of the United States with a broad recognition by the Government deemed entirely commensurate with their importance, to the betterment of mining conditions generally in its several branches, and especially to the prevention of waste in mining methods and to the prevention of accidents which have recently proven so disastrous to life and property.

This subject has assumed such proportions and attracted such widespread earnest attention alike by the mine operators, mine workers, the public and press of the country, as well as by Congress itself, that it has been decided by the Committee on Mines and Mining of the House of Representatives to afford those interested every opportunity to present the different phases of the question for the information and guidance of those Members of the House of Representatives to whom these questions are referred for recommendation.

With this end in view, Mr. Huff, the chairman of the Committee on Mines and Mining has named Messrs. Douglas, Hall, Hamilton, Bartlett, and myself as members of a subcommittee to give particular consideration to this subject of a bureau of mines, and we have invited you gentlemen to be present that we may be better guided by your wide experience and advice as to what action by Congress may serve the mining industry to the greatest possible advantage. We desire that all who appear before this committee will feel free to speak frankly and fully, realizing that we must look to those experts who are best qualified in their respective lines of work to point the way to the proper solution of the matters under consideration. We will now be glad to hear from any of the gentlemen present.

Mr. DOUGLAS. I believe that we are united in the opinion that the bureau of mines should be established. I would be glad to listen to these hearings, but it seems to me that, this being true, it will be a waste of time to discuss the question as to whether we want a bureau of mines, but, rather, why?

Mr. WILSON. It is certainly pleasing to me to know that the committee has agreed upon the proposition for a bureau of mines. The statement of Mr. Douglas to that effect is very reassuring, and I assume that it voices the general opinion of those who have considered the matter.

Mr. DOUGLAS. I might add this, Mr. Wilson: We all held a meeting the other day and agreed that there is no question to which we could devote ourselves to more advantage.

Mr. WILSON. With that information, I will not go into an extended discussion. I believe that the necessity for it as bearing both on life and property is very fully set forth. I merely want to add that at a meeting of operators and miners from Pennsylvania, Ohio, Indiana, Illinois, and other important coal States, held at Indianapolis on the 27th, 28th, and 29th days of February, the question of a bureau of mines came up for consideration. I was secretary of that meeting. At that meeting the representatives of both interests jointly agreed that they favored a bureau of mining technology. While in the resolutions adopted the name of the particular bill or the number of the particular bill that they favored was not mentioned, it was generally understood that the ideas in favor were contained in the Chaney-Hemenway bill as the ideas in which the miners and operators mutually agreed. To that extent we are agreed and that the appropriation item offered by Senator Hemenway, amounting to \$200,000 should be made for the purpose of establishing and conducting this bureau. Beyond that we did not jointly take up any of the details of the proposed bureau of mines. As we understand the Chaney-Hemenway bill, it proposes a bureau of mining technology that will investigate into the mining technique, causes of explosions and other accidents, the loss and waste in mining coal, and other things of general welfare to the mining industry. But the convention prior to that one, in addition to the proposition for a bureau of mines, advocated and petitioned that an insurance or indemnity feature should be had, such as is contained in the McHenry bill. We are not agreed that it is constitutional, in the form that it can be used for the specific purpose; but the tax can be placed on the coal mined, for that purpose, and it is, in our opinion, just and proper.

Mr. HAMILTON. Do you believe that feature could be embodied in a separate bill and not in the bill that provides for the bureau?

Mr. WILSON. So far as I am personally concerned, I would not want to place anything in the way of establishing a bureau. I am speaking for myself alone. I do not want it to encumber or endanger the passage of a proper bill for the bureau. Speaking for my organization that I represent, they think that the two should be connected, and that there should be established a tax of 1 cent per ton on coal mined, to be used as an indemnity fund against the lives or injuries of the miners. They take that position. Attempts have been made at different times, laws have been passed in the different States, and immediately upon such measures being passed the operation of the mines has felt its disturbing influence. In the bituminous coal trade

it has not been so combined or so established that man can control it. Between West Virginia and Pennsylvania a few cents per ton tax passed on Pennsylvania or West Virginia coal would disturb the business. A tax of 3 cents per ton was proposed on coal in Indiana, and when that measure came before the State legislature we were engaged in making a wage contract. It led to trade disturbance and to withdrawal of the measure. I believe that the levying of such a tax on all coal will remove that cause of disturbance and place all of those interests in the same competitive position. The consumer would in the end assume the burdens which are incident to the production of that coal. In that we believe it is just. I want to state, however, that the operators did not agree with us to that extent in supporting that measure. I also want to make the statement in such a way that you may know where I stand. I want to see this tax levied, but if attaching it to a measure for the establishment of a bureau of mines will hurt that measure I do not care to see it attached. That is my personal position. But, speaking as a representative of the United Mine Workers of America, I desire to state that we favor such a tax and believe that it is just and proper.

MR. ENGLEBRIGHT. Would that have to be levied as an internal-revenue tax?

MR. WILSON. Yes; it would be an internal-revenue tax. As to the power to levy such a tax for a special purpose I am at present in doubt as to how it could be carried out constitutionally. It should further provide for a tax on all coal mined in the United States, Territories, and insular possessions at 1 cent per ton, and appropriations made to indemnify those who are killed or injured in the mines, such appropriations to be limited in amount to that accrued as the result of the tax.

MR. ENGLEBRIGHT. Would you not just summarize your remarks to this extent: What objects do you believe that the bureau of mines should attempt for the coal industry to be able to assist them as they need assistance?

MR. WILSON. My views are, first, that the bureau of mining should be provided and equipped with the necessary apparatus for making practical tests concerning the nature of gases; their effect when brought in connection with a flame or other material that may cause injury; the effect of dust, whether it will ignite and explode without an admixture of gas—carbureted hydrogen; whether the sprinkling of dry mines tends to increase or decrease the liability to explosions, and the intensity of them when they do occur; whether or not electricity in mines or electric wires carried into mines, insulated or un-insulated, tend to cause accidents in mines; whether or not silent current, a wire without a spark, would ignite gas or dust or other inflammable material, and whether or not the present explosives used in mining coal are the best that can be used, that can be devised, and all matters of that kind for the protection of life and limb, all of which are matters of doubt at the present time. It should further provide a tax on all coal mined in the United States, the Territories, or our insular possessions of 1 cent per ton, and make appropriations to indemnify those who are killed or injured in the mines, such appropriations to be limited to the amount that may be produced or secured as the result of the tax.

Mr. ENGLEBRIGHT. Would you consider it a very pertinent question to have the lights that are used in the mines still something that is very open to considerable discussion?

Mr. WILSON. Yes; I do. I consider that the question of lights is a very important question. Because of the fact of the safety lamps that are now in use being of such small candlepower, that candlepower itself being reduced as the result of going through wire gauze, and in addition to that the lamps being heavy and cumbersome, miners find them inconvenient to use, and they will frequently take risks rather than use them; also because of the fact that naked lights undoubtedly ignite gas when at the explosive point; and an investigation should be entered upon to determine whether or not those open lights would ignite dust under certain conditions and cause an explosion.

Mr. DOUGLAS. May I ask you this, whether or not you think that the language I read now covers your own views as to what should be investigated? Of course we can go, in a bill, into all the details that you speak of.

Mr. WILSON. I understand.

Mr. DOUGLAS. It reads: "To make an investigation of the methods of mining, the safety of miners, the possible improvement of conditions under which mining operations are carried on, the use of explosives and electricity, the prevention of accidents, the prices of products and markets for the same, the wages of employees, and of other matters pertinent to said industries."

Mr. WILSON. That, in my estimation, would cover it all. The last clause in itself is a blanket clause, and covers that which has not been specifically stated prior to that.

Mr. HALL. Just a moment, since you have answered that question. Did you examine all the details contained in this letter from the Secretary of the Interior to the Secretary of the Treasury, which is contained in House Document No. 523, containing an enumeration of different matters and items that it is recommended an appropriation be made for to purchase, in connection with these investigations?

Mr. WILSON. No; I have not examined it.

Mr. HALL. It is rather lengthy, and I just wanted to get your views as to the propriety of the expenditure for those purposes.

Mr. WILSON. While I have not examined this statement, I may state that I have discussed to some extent with others this general idea, as to the items that are necessary for the equipment. As to their accuracy I have no information.

Mr. HALL. It would be a matter of detail and experience, anyway?

Mr. WILSON. Yes, sir. But I do believe that there should be provided all of the necessary mechanical devices to make the tests that are required to demonstrate the correct theories, and perhaps in connection with the operations of mines.

Mr. HALL. One other question. I was not in the room at the time you made your remarks. You know that there are several bills here for the purpose of investigating the causes of these recent mining disasters?

Mr. WILSON. Yes.

Mr. HALL. Did you make any investigations in regard to them?

Mr. WILSON. I have not done so. I simply made the statement that so far as the miners and operators of western Pennsylvania—

their representatives in conference—Ohio, Indiana, and Illinois were concerned, we were a unit in agreeing upon the establishment of a bureau of mining technology such as is provided in the Hemenway and Chaney bills. To that extent we were a unit. Beyond that we had not considered the details of the proposition; but that the miners in separate convention had passed a resolution indorsing the principles embodied in the McHenry bill, and asking that it be changed to conform to the Constitution and enacted into law. The McHenry bill is somewhat lengthy. It provides for a bureau of mining, and in addition to a bureau of mining provides for a tax of 1 cent per ton.

Mr. HALL. I came in about the time you were discussing that.

Mr. WILSON. Yes. It provides for a tax of 1 cent per ton. I may say in addition to what I have already stated that miners also believe that in the establishment of a bureau of mining it would take some time to get the bureau into operation, to establish a bureau of the magnitude that would be required would take some time and to get it into practical operation. We believe that in the meantime an investigation should be proceeded with under the direction of the Secretary of the Interior, and that the means should be provided to proceed with that investigation. Any equipment that may be necessary or that may be secured to assist in that investigation would naturally be under the Interior Department, and would revert to the bureau of mining when it is ready to proceed with the work.

Mr. HALL. You think it would be better to have that under the auspices of the Secretary of the Interior than to have any of those commissions appointed that is provided in some of the bills?

Mr. WILSON. I do.

Mr. HALL. You think that would be better than to have an investigation made by this committee, by bringing witnesses before them?

Mr. WILSON. I do. My ideas of a commission are embodied in a joint resolution, I believe No. 100, which I introduced, and it proposes a commission of three lawyers, three expert mining engineers, three coal-mine operators, and three practical miners.

Mr. HAMMOND. That to be under the direction of the Secretary of the Interior?

Mr. WILSON. Yes, sir; to be under the direction of the Secretary of the Interior. The resolution so provides.

Mr. HALL. Why would it be better to have a commission of that kind to make the investigation under the auspices of the Secretary of the Interior than to have the witnesses brought before this committee who could give this information, excepting upon the question of actual experiments?

Mr. WILSON. Because of this, that the same parties who were examining the witnesses and giving theoretical knowledge would also be proceeding to secure the practical knowledge—the parties.

Your committee, I take it—the committee that is proposed under some of the resolutions—is to be composed of Senators and Representatives, and the sole purpose will be to examine witnesses, to get from those witnesses their ideas of the causes, and it would not be their province to make a practical demonstration by experiments.

Mr. HALL. I refer to the experiments, but what I was alluding to more particularly was the Huff resolution, which provides not for

the appointment of any commission at all, but that this committee might subpoena witnesses to come before them to give their testimony concerning causes of the mining disasters, and might also call before it expert witnesses who might make experiments in connection with the explosive proposition as to these gases, and the causes of the explosions, and so on, and to reduce that to writing, so as to constitute a permanent record.

Mr. WILSON. I do not think that is possible, because the devices that would be necessary to make practical experiments could not be produced and used in the short space of time, nor could they be readily movable. There are many devices that would be necessary for the demonstration of the cause of explosions of gas, the cause of the explosions of dust, if dust is one of the causes of explosions, and the power of powder explosions, and such experiments would scarcely be available before such a committee.

Mr. HALL. That apparatus you mention would probably require as much time for its preparation as would ensue before such department might be created as you recommend, anyway.

Mr. WILSON. Some of it.

Mr. HALL. Yes.

Mr. WILSON. Some of it. I am of the opinion that a permanent station will have to be established for experiments, and that permanent station will require considerable space and considerable apparatus to make the practical tests that will be necessary, and that permanent station necessarily should be established in the mining region, where it would be convenient for practical tests, such as the tests that are frequently made in the State of Pennsylvania, where the air in the mine is taken from the mine and taken to the inspectors' offices and there, by the use of the Shaw machine, analyzed.

Mr. HALL. So that whatever investigations were made prior to the establishment of this bill would necessarily have to be largely without the use of apparatus in any event, no matter what the proceeding there might be?

Mr. WILSON. There would be a great proportion of that that would have to be without the use of machinery; and yet the practical value of the investigations that might be made upon mines with the apparatus available—

Mr. DOUGLAS. I want to ask you a question there. Have you personally investigated the question of advisability, as to whether this bureau should be established in the Interior Department or the Department of Commerce and Labor; as a matter of law, I mean?

Mr. WILSON. Not as a matter of law, I have not. It has occurred to me, however, that it is interior work, and properly belongs in the Department of the Interior.

Mr. DOUGLAS. Because it has nothing to do with foreign affairs?

Mr. WILSON. Yes, sir; because it has nothing to do with foreign affairs.

Mr. DOUGLAS. But did you know, as a matter of fact, that the whole subject of mining, as an industry, is by the organic law creating the Department of Commerce and Labor put into that Department? Did you know that fact?

Mr. WILSON. No; I did not.

Mr. DOUGLAS. Well, that is true.

Mr. WILSON. That, however, as to which Department it should be assigned to, is not important.

Mr. DOUGLAS. It is going to be the important matter, the practical matter, in this whole business.

Mr. WILSON. Not in my mind.

Mr. DOUGLAS. I know, not to your mind, but before Congress. The Geological Survey is going after this work and trying to get it to develop their own importance. That is a thing you know.

Mr. WILSON. Well, the Geological Department, in my estimation, is the department to do this, whether the geological division is in the Interior Department, or whether the geological division is in the Department of Commerce and Labor. The Geological Department is the department which should handle this work.

Mr. DOUGLAS. Have you considered that question carefully, now?

Mr. WILSON. Not from the standpoint of a lawyer; not from the standpoint of legal technique.

Mr. DOUGLAS. No; but from the standpoint of practical success in getting a bill through Congress? That is what I am talking about. There is the thing to consider.

Mr. WILSON. No; unless there is some constitutional objection—

Mr. DOUGLAS. I will talk to you about it for two hours and a half some time.

Mr. WILSON. Yes. I can not see that it makes any material difference whether the bureau is in the Interior Department or whether it is in the Department of Commerce and Labor.

Mr. DOUGLAS. Yes; all right.

Mr. WILSON. So far as the management of these Departments are concerned, they will change with changing administrations.

Mr. DOUGLAS. Yes.

Mr. WILSON. So far as the conduct of them is concerned, they will change with the varying persons who are at the heads of the Departments.

Mr. DOUGLAS. Certainly.

Mr. WILSON. So that it makes practically, so far as the operation of the work is concerned, no difference to us whether it is in the Interior Department or in the Department of Commerce and Labor. There may be some political reasons that I do not know anything about. I am not bothering my head about political reasons as to why it should be this way or that way.

Mr. DOUGLAS. I had not any reference to political reasons; none at all.

Mr. WILSON. No; or as to whether one division in a Department is seeking to increase its power and prestige as against some other division in a department is a matter that makes no material difference to me.

Mr. DOUGLAS. It does make a difference to you, though, so far as the practical question of getting a bill through Congress is concerned.

Mr. WILSON. If there are any obstacles in the way—

Mr. DOUGLAS. Certainly.

Mr. WILSON (continuing). That I do not know of, that would prevent its going through in the Interior Department. I am perfectly

willing that it should be switched over to the Department of Commerce and Labor.

Mr. DOUGLAS. I think it should be there, and I have my reasons for it.

Mr. WILSON. Yes. I believe, however, that the Geological Department and the division—the bureau—of mines and mining should be together, and if the one is already in the Interior Department the other should go there, or else the Geological Department should be transferred also to the Department of Commerce and Labor.

Mr. ENGLEBRIGHT. We have with us this morning Mr. White, State geologist of West Virginia, who is here at my invitation, and I would be pleased to hear from Mr. White.

STATEMENT OF MR. I. C. WHITE, STATE GEOLOGIST OF WEST VIRGINIA.

Mr. ENGLEBRIGHT. Will you kindly state what connection you have had with mining and your present connection, so that the committee may recognize the force of any remarks you may make?

Mr. WHITE. I have been connected with the field geological surveys ever since 1875, thirty-odd years. I was for nine years on the Pennsylvania geological survey in the bituminous coal region, covering both the western end of the State and the eastern. I am the author of nine volumes, I think, of the reports of that survey. I am at present State geologist of West Virginia, and have also prepared a bulletin on the Appalachian coal field for the United States Geological Survey. I have also studied the coal fields of Brazil and have made an official report to the Brazilian Government on them. My work, while not in the practical line of operation, has led me to become familiar with all those questions that come up in the mining of coal. It has led me to observe one of the peculiar reasons why we need a bureau of this kind—namely, to prevent the enormous wastes that are constantly, daily and hourly, taking place in the mining of coal.

Of course you all understand that the abundance of coal, of cheap power, in the United States is the reason for its preeminence in the world of industry. That is what has made Pittsburg to-day the manufacturing center of the country, and it is what will keep the United States in the foreground of the industrial world as long as we can utilize our enormous resources. But, great as they are, they are exhaustible, and with the present rate of waste that is going on in every way our cheap power, instead of lasting for hundreds of years, as it should, will be largely exhausted within one hundred years, without any doubt, unless we can prevent this waste. Now, there are several methods of this waste that several of you have not seen or noticed, I have no doubt. First, there is the waste in the mining of the single seam. We had an illustration of that when the coal mining began in the Cumberland region. They had the same bed of coal there that has made Pittsburg the industrial center of the world, in what is known as the "Georges Creek field," and it was so thick—twice as thick as in the Pittsburg region—that the early operators found difficulty in taking it all out. It was from 12 to 15 feet thick, and they took out from 6 to 7 feet and left the rest, which

is there yet, hundreds of thousands of tons of the finest fuel in the world, one of our best fuels. That is one of the methods of waste.

Mr. DOUGLAS. Why can they not get it after a while?

Mr. WHITE. It is impossible ever to get that, because with the falling in of the roof it is broken up, and it would cost more than the coal is worth now. It could probably be taken out when coal goes up to \$10 and \$15 a ton, as it will in the not distant future, unless we preserve what we have got; but it is practically lost.

Mr. WILSON. Will the committee permit me to remark also that there would be very great danger to life and limb in taking it out.

Mr. WHITE. Yes. This roof has fallen in, and instead of a fissure every 10, 20, or 30 feet there are fissures and breaks every 2 or 3 feet, so that you would practically have to make a new roof, which would cost too much.

Mr. ENGLEBRIGHT. We have some mining in California that corresponds very nearly, or that is similar to some extent, to your coal mining, and that is our drift gravel mining. It is a very common thing to work in those mines 10 or 15 feet high, and each time things come down, and then we go to work and mine right over again. Had we not better send some of those California miners to show you how to do it?

Mr. WHITE. Of course gold is so much more valuable than coal that you might do it.

Mr. ENGLEBRIGHT. Yes; this runs in value from \$1 to \$2 a cubic yard.

Mr. WHITE. Coal, of course, has to be mined under commercial conditions, and while you may do that with gold I doubt if you can do it with coal. However, there are questions right there that this department could help to solve. For instance, in that connection, I have seen a bed of coal 150 feet thick in southern France, where they took a method of mining that we have never adopted here. They take off 385 feet of surface and mine it by stripping, and they find it cheaper. I think that this department can do a great deal in the line that you suggest, in bringing to light methods that they use in other parts of the world, in order to save all the coal. Now, the taking out only a part of the bed is one of the great methods of waste. That is where the coal is pure. Another loss comes in in this way. Not all of any coal bed, or at least rarely, if it is of any considerable thickness, is what is regarded at the time as commercial coal.

For instance, in this great Pittsburg bed, in the region of Pittsburg itself, it has from 3 to 4 feet of what is now regarded as not commercial coal in the roof, and formerly from 2 to 3 feet in the bottom. They simply took out the heart of it, from 4 to 4½ or 5 feet in the center, and all the rest is lost, just as half of that great seam in the Georges Creek basin was lost to them, although it was as good as what they took. But this waste is going on continually. A portion of the seam that is rich in hydrocarbons, but will not meet competitive commercial conditions under our present methods of utilizing coal, is left. There is where this bureau can do a great service for the coal industry itself and for the country by devising methods of utilizing the impure or bony coals that are frequently found both in

the roof and on the floor and sometimes right in the middle of the bed. From the Kanawha Valley, clear across to the Big Sandy, and going across into Kentucky, they have those splendid splint coals, none of them free from bony layers, which, while there is plenty of carbon in them, and they make plenty of power, will not meet commercial conditions, so that 2 or 3 feet of good coal has sometimes to be rejected. This bureau, by devising methods of utilizing those poor coals and bringing to the attention of the people, as the Geological Survey of the Government has done, how the coal can be utilized through the gas engine, and utilizing the power that way, will do work of great value, so that even these waste materials that we now regard as worthless, and throw away because they can not be sold at any price, will produce more power than even the best Pocahontas or Georges Creek or Cardiff coal when utilized through the steam engine. That is a vast waste in many regions; it is practically one-third of all the coal that is there. That is, that much is being left in the mines as being too impure to take out or rejected and piled up in the enormous heaps that you see around the mouths of very many mines. This bureau by its investigations and by the study of the scientific experts connected with it, by the invention of improved processes of manufacturing and using gas, would lead to the utilization of that waste.

Then there is another enormous waste in Pennsylvania and in Ohio and in Indiana and Illinois, Kentucky, and West Virginia, and all through the coal regions. There is not only one bed, but there are three, four, five, and even six beds.

Mr. CHANEY. There are seven beds of bituminous coal in Indiana.

Mr. WHITE. There is where we lack knowledge. Frequently the bottom seam is the best, and it will meet commercial conditions best. For instance, in my own State—West Virginia—we have mountains 1,750 feet high containing coal. I was over on the Clear Fork of Coal River, where the Big Cool Company has undertaken some developments; I think Mr. Jones, of Pittsburg, has undertaken some developments there. They have 75,000 acres there in one body, and there is a mountain 1,750 feet high which has coal from the bottom to the top, no less than eight workable seams, and yet they have started to mine only one. It is fortunate that it happens to be about one thousand feet above the level of the valley, but there are three other seams above this, and I have no doubt that the mining of this big seam, 10 to 12 feet in thickness, will ruin all those beds above. So here is something we need information about. It is suspected that the taking out of a thick seam of coal will so break up those seams that overlie, nearer the surface, that it will practically ruin all the rest above it. However, we do not know. It is suspected that that is the case. Of course so long as operators have no light on that question and it is not investigated from a scientific standpoint they will continue to do that, to their own injury. If they knew through the investigations of a bureau of this kind which could study it in every State in the Union and get data upon just what effect it has upon the overlying seams, taking out the coal below and letting the surface come down, what effect it has on those seams above, so that mine owners could act intelligently, you can see what a great saving it would be.

Mr. CHANEY. May I ask you if the scientific investigation and knowledge of the subject does not underlie the whole problem?

Mr. WHITE. Most certainly; because only a scientific bureau can study the question in Pennsylvania, West Virginia, Ohio, Indiana, Illinois, Kentucky, Virginia, Alabama, and Tennessee, and other States outside of the Appalachian field, and reach definite conclusions.

Mr. DOUGLAS. Did you not begin your statement by saying that your experience had been a purely scientific one; that you knew very little about the technology of mining? What we are after is the industrial part of it, and you began your statement by saying that you knew the scientific part of it, but had not much experience in actual mining.

Mr. WHITE. Except as I have studied it.

Mr. DOUGLAS. But we want a bureau that knows the technology of it and the practical part of it.

Mr. WHITE. As a practical coal-mining engineer I do not pretend to have that kind of knowledge.

Mr. DOUGLAS. That is what that bureau is for. We have got the scientific thing now.

Mr. WHITE. Although necessarily I know something about it.

Mr. ENGLEBRIGHT. Do you know that there has been any investigation made as to the waste in the manufacture of coke?

Mr. WHITE. By the operatives themselves?

Mr. ENGLEBRIGHT. Yes.

Mr. WHITE. I think not. All that has been done has been done by the Geological Survey. And just there, I did not call attention to another source of waste. This Pittsburg region alone has wasted untold billions of the richest part of the seams by the methods of manufacturing coke, utilizing only about half. Practically the waste in making coke in the ordinary beehive oven with the volatile matter at 36 per cent is very great. What is oxidized and goes off in the burning is necessarily from 40 to 45 per cent of it, and the richest part of it. In the old countries you never see that. They save everything there. It is largely from lack of knowledge that they do it as they do here. The United States Steel Corporation is now considering the possibilities. They have investigated it from the scientific point of view, of not building any more beehive ovens, building their by-product ovens where their plants are, and they are now transporting the coal 400 miles from West Virginia, and mixing it with a coal higher in volatile matter, and making coke in that way. They have burned billions and trillions of gas in the Connellsville region in the last sixty years, or as long as they have been making coke. That is another possibility of work that this bureau could do, calling the attention of the country to the enormous waste that goes on in our present methods of manufacturing coke, so that there is a great deal to be done along that line. You never see a beehive oven in the old country. The commercial conditions appear to compel other methods, or else the laws compel them. This is another thing which these gentlemen can bring out and bring to the attention of the people. It is true in France, at least, that you are not permitted to make a hole in the ground without filling it up again. If you dig out rock, you have got to put rock back, especially if anybody has anything valuable there above it. On this coal bed at St. Etienne

in France they take off the whole surface. They had to buy the surface, and after they take out the coal they have to fill up the hole and level it off, so that they have good ground to build on.

Mr. ENGLEBRIGHT. Your suggestion is that there is ample room for this bureau to take up the question of the waste of material and the making of other products from the coal mines, and the better use of the material?

Mr. WHITE. Yes. Of course these other wastes go on in the mining of iron ore just as they do in the mining of coal. The inferior ores that will not meet the highest methods of the modern steel industry could possibly be utilized by a study which could be given them by a great bureau of the Government. So it does not apply only to the coal, but to practically every mineral we produce; and as to whether this bureau should be in the Department of the Interior or the Department of Commerce and Labor, that is a question for you gentlemen to decide. As a geologist, and one who has studied this question from the standpoint of the geologist, I should say the bureaus certainly should not be divorced. They should be together, wherever you place them. Whether you place both in the Interior Department or both in the Department of Commerce and Labor, you would make a great mistake if you divorced the two. If you put one in the Department of Commerce and Labor, you must bring the other there, too, or else you will have divided action, and the energies of the Department will be scattered instead of being concentrated.

Mr. HALL. In deciding the question of which Department it should be in connection with, what is your view as to whether it should be designed for the purpose of making scientific investigations or for the purpose of examining the question of mining from an industrial standpoint?

Mr. WHITE. I should say that the two go together. There is no industrial examination that is worth while unless it is founded and based upon previous scientific inquiries. All of our great discoveries have had for their basis scientific investigation. Not one, from telegraphy up to wireless telegraphy, that had not previously been worked out—the elements, the basis for it—in the laboratory, in purely scientific work. So that you can not divorce the two. They go together. Often, you know, the scientific man is derided. Professor Henry was arrested for a lunatic, up near Harrisburg, and against his vigorous protests was taken to the nearest asylum, because he was examining some rocks and collecting fossils. They offered a premium up there, as they do in some places, for those people, to bring them in, and two overanxious farmers, seeing a man doing an insane thing, thought of course he was a lunatic, and they took him by force of arms and led him up to the doors of the asylum.

Mr. HAMMOND. Would it be possible, do you think, for this work to be done by the Geological Bureau?

Mr. WHITE. Most certainly, because the Geological Survey is not only scientific in its nature, but intensely practical. I have mentioned some of their wonderful discoveries as to the utilization of these waste products in coal mines so that the slack and waste will produce more power when run through a gas burner than the best Pocahontas coal. Because a thing is scientific it does not follow that it is not practical; and even the practical men have learned that lesson, so that they have their men employed constantly who labor at

purely scientific problems; and that is one of the secrets of the success of the Germans. They have, at their great university, a corps of men trained in the highest degree in scientific inquiry, and that scientific work forms the basis of all their practical work, and you can not get away from it. You can not have anything that is practical industrially separated from its scientific basis.

Mr. DOUGLAS. You do not want to go that far, that you can not have anything practical without that?

Mr. WHITE. Yes, sir.

Mr. DOUGLAS. How about the Sevres ware and the Dresden pottery? At their most successful times was there any scientific work connected with it?

Mr. WHITE. Undoubtedly, underlying it, there was.

Mr. DOUGLAS. Oh, no. I do not doubt that practical work and scientific work go together in this, particularly chemistry; but whether this work should be under one Department rather than under another is principally a matter of law, is it not?

Mr. WHITE. Of course of that phase of it I know nothing; but as to divorcing the two, you would certainly make a great mistake if you did that, because they can not be divorced. All of our modern scientific discoveries have rested upon purely scientific work; we all know that.

Mr. DOUGLAS. Do you think the Venetian glass makers knew anything about the scientific part of it?

Mr. WHITE. Of course; they may not have called it scientific work, but it was of that nature.

Mr. DOUGLAS. The greatest triumphs of the industrial world have been, at least in ancient times, without any reference to science whatever.

Mr. WHITE. Even the old alchemists made discoveries, and they may not have called it science, but they were working on the lines that this modern scientific investigation is coming back to now, and doing it by scientific, systematic methods.

Mr. DOUGLAS. Experiment and experience taught the Venetians how to make glass. They did not know anything about the science of it.

Mr. ENGLEBRIGHT. We have with us ex-Governor Fleming, of West Virginia, who is prominent in connection with the management of coal mining, and we would be glad to hear from Mr. Fleming.

STATEMENT OF HON. A. B. FLEMING, OF WEST VIRGINIA.

Mr. FLEMING. You asked Mr. White how he was connected with coal mining. I will state that my connection with it is in West Virginia. I am interested in and a director of the Clarksburg Fuel Company, Pittsburg and Fairmont Fuel Company, and the Southern Coal and Transportation Company. The coal mined by these companies—they are all working companies—is located in Harrison, Marion, Monongalia, and Barbour counties. The Fairmont Coal Company operates 30 mines—30 plants. The other companies operate two or three; the Southern Coal and Transportation Company only one. I scarcely know what you expect of me, but the accidents in the coal mines in our State and in some of the mines in which I am interested and the recent accidents also in the mines in Alabama

and Pennsylvania have stirred up the people wonderfully, not only operators and miners, but all the people, and the talk and the desire is for a department of mines and mining as we have always understood it in connection with the Interior Department. That has been discussed a great deal of late, and I have not heard of any person but is in favor of it. The cost would seem insignificant compared to the good that it will do in various ways, first in the safety of the mines, as we think; and the information which we would expect to derive from such a bureau would enable the operators to make the mines more safe, thus saving life and property. We have always supposed that the bureau would be one for the collecting of information which would be valuable for the operators, in enabling them to make the mines more safe, and still further to prevent a waste of coal, which has already been referred to here. I inquired of one of the largest operators in our State, well posted, a few days ago, how much coal he thought was wasted in the United States every year which might be saved by improved methods of mining, and he said 50,000,000 tons. I have talked to other persons since that, and they say that that is way under, and that it is very largely more than 50,000,000 tons. Now, that is a great deal of waste.

Mr. WHITE. That is way under the real amount.

Mr. FLEMING. I believe I was inquiring of you, and you said that it was near twice that?

Mr. WHITE. Yes.

Mr. FLEMING. And when we consider, as the old geologists said, that the nations that have iron and coal rule the world, we may appreciate the importance of making our iron and coal last. If we only have bituminous coal in this country enough to last a century or two centuries the way it is being used, and the use is going to increase as it has been increasing in the recent past, we can see the importance of lengthening out the time by economizing and preventing this waste. The loss of life in our mines, to say nothing of the loss of property and damages to operators, has been immense, and of course the most important thing, as I understand, is to make the mines more safe. I am interested, I am a director, in the Fairmont Coal Company which operated the two mines, Monongah 6 and 8, which blew up on the 6th of December, in which accident there were 356 people killed; the most deplorable accident, I believe, of which we have any record except the one in France a year or two ago. I think it is appropriate here to say that those mines were the safest and best mines, as we understood it, belonging to the Fairmount Coal Company, out of the 30 that we had. They were the newest, one opened two or three and the other eight to ten years ago, no expense was spared in the opening of them, in the laying of them out, or in the appliances and the machinery and ventilation, and everything else; nothing was omitted to be done that we knew of to make those mines the best and safest, and yet we had that accident.

Mr. CHANEY. Have you discovered what was the real trouble?

Mr. FLEMING. No, sir; that is what impressed upon us forcibly the importance of such a bureau as you are discussing here and contemplating creating. I do not think that it is possible for the States to do it. The States can not afford—thirty States, for instance—to create such a bureau as would be efficient and would be

able to determine what should be done to make the mines safer. Only the National Government, the Federal Government, can do it. The operators can not; they can no more do it than, nor as well as, the State, for various reasons. And I might say in this connection that the Fairmont Coal Company has its laboratory and a department of scientific work. Of course it is in a small way; but it is as good as we can get and can afford. We have a very fine chemist, Mr. Frank Haas, who has assistants there, and we have been doing all we could do, in a private way, to make our mines safe and ascertain what is necessary to make them safe, as I think Doctor White will confirm.

Mr. WHITE. Surely they are.

Mr. FLEMING. In connection with that I heard him say this morning he is one of the very best chemists in the United States.

Mr. WHITE. One of the very best; trained under Professor Lord, of the Ohio State University, one of the best coal chemists in the world.

Mr. FLEMING. He has been in those mines and has analyzed the air and the dust, and he is assistant general manager, so as to give him a right to direct. He knows where and how much gas is produced and controls it.

Mr. ENGLEBRIGHT. Have you any fear that the operators would fail to cooperate with the bureau of mines and mining on this proposition?

Mr. FLEMING. I have no doubt about it; and I would not regard the opinions of those who would refuse to cooperate with that bureau. I would say that the people who would not cooperate with a bureau like this established by the Government would not be worth considering for one moment.

Mr. ENGLEBRIGHT. Do you believe, Governor, that sufficient attention has been given in the past to the gases that have accumulated in the large tracts of worked-out ground?

Mr. FLEMING. Now, that is one thing that could be gone into by a bureau of this kind. We have tried to do that. Accidents are multiplying, loss of life is increasing, destruction of property has increased all over the country, in our State and in the neighboring States, we see that from newspaper accounts. That grows very largely, perhaps, out of the very suggestion you make, that they are working out areas of coal, large quantities of coal, and the mines are abandoned in certain places. Now, whether these places are safeguarded sufficiently is a question.

Mr. ENGLEBRIGHT. That is the question.

Mr. FLEMING. That is the question you put. We have supposed we were safeguarding them. In these mines I have referred to where these accidents occurred there were no abandoned places of any consequence, because the mines were new. If we had had those explosions in one of the older mines, where we are hauling coal from 3 to 5 miles, it would not have been so surprising, although it would have surprised us.

You asked if we knew the initial cause of the explosion. Doctor Holmes was there twice, making a personal investigation. Mr. Hall and his department remained there a week or two making investigation, and right while they were taking the dead bodies out and clearing up the mines that accident occurred down in Pennsylvania at the Darr mines, I believe, and these gentlemen alternated back

and forth. As I understand the Darr mine accident—I only speak from report—was from gas. The accident in our mines at Monongah could not have been the result of gas alone. The mines in that country generate more or less fire damp or gas, but the investigations of these mines showed that they were not considered in law gaseous mines. The inspector gave a certificate saying that they were not, and did not need to be worked with safety lamps, and after this explosion there was just a trace of gas found, not enough to explode even with the defects in ventilation, disturbed as it was. But our coal is dusty, and where the mines are dry there is more or less dust. The law requires that dust to be dampened, but it is very hard to dampen dust. We had an experiment made by our chemist showing that dust will not mix with water. Perhaps it will interest you for me to describe that experiment. The question was raised before the coroner's jury whether the mine was dampened, and our chemist before the jury took some mine dust and put it on top of water in a bowl, and then he stirred it until it all went down through the water and settled in the bottom of the bowl, and then he poured the water off in the presence of the coroner's jury and the water ran off clear, leaving the dust in the bowl, and then he blew with his breath a puff of that dust up several feet high, perfectly dry, flying in the air, after it had been stirred down through the water; so that you can not, as we understand, make a mine safe simply by wetting it. You can improve it. Now, an investigation such as can be made by a bureau, a scientific bureau, on those lines will be of great value.

MR. WILSON. If you will permit me, I would like to ask you a question along the line suggested by the chairman.

MR. FLEMING. Yes, sir.

MR. WILSON. Is it not a fact that no method has yet been devised by which gas can be brushed out from old workings that have caved in?

MR. FLEMING. Not unless you ventilate them.

MR. WILSON. No method of ventilating has yet been devised?

MR. FLEMING. Not when they abandon the mine. They do not generally undertake to take the gas out of the part of the mine that is abandoned. I do not see how they can get it out without keeping up the system of ventilation.

MR. WILSON. The point I wanted to bring out is that no method has yet been discovered by which the gases can be brushed out from the broken, caved-in portions of old workings.

Another question. I am asking these questions for the purpose of bringing out information, you understand.

MR. FLEMING. I understand, and I am glad to have any questions.

MR. WILSON. Is it not a fact that the accumulations of gas in the old workings are more or less affected by the rise and fall of the barometer in going down and coming up from the active operations where the men are at work, or, in other words, that the rise and fall of the barometer has an effect on the gas in the workings?

MR. ENGLEBRIGHT. That is a question of temperature.

MR. FLEMING. Yes; that may be a question of temperature.

MR. WILSON. What I wanted to bring out was that there is no method of getting these dangerous accumulations of gas out from old workings that have caved in. They can be gotten out of old

workings that have not caved in, but not from old workings that have caved in, and that is a source of danger; and this bureau, if established, might, by its experiments, determine some method by which the gas could be gotten out.

Mr. FLEMING. Yes; the gas that comes into the mines from the old workings into the new. Sometimes you strike a pocket that is very fresh in the new mines. That is taken out by the ventilation of the mine. Our idea has always been that a mine ought to be made safe enough with ventilation—even a gaseous mine—so that there is no danger even in working with an open light. We have the men use safety lamps because the law requires it; but we find that a mine is safer, unless it is a very, very gaseous mine, where they undertake to make it safe with ventilation; because when you use safety lamps a man may light his pipe, or in some way start a fire, relying on the safety lamp rather than on the ventilation. Where a mine is made absolutely safe by ventilation there is not much use in safety lamps. In these Monongah mines that blew up we did not use safety lamps. There was no need of it. There was no gas there in dangerous quantities, and we did not know, and do not know now, the conditions under which dust will explode from a lamp or from an open light. That is one thing, perhaps, that ought to be discovered, if it can be. Nor do we know what admixture of a small quantity of gas with the dust will become explosive and will explode.

Mr. CHANEY. Or to determine just how and when that mixture takes place?

Mr. FLEMING. Yes; that is a point for you gentlemen. That is one thing to be determined by scientific investigation, which is very important.

You asked me what caused that explosion. I have been getting away from it from time to time. There have been several theories. There were very careful investigations made by experts of the mining department from Ohio. Every superintendent was there, and there were several from Pennsylvania and several from Maryland, and they all made an examination. Some thought that the cause of the initial explosion was a runaway trip that caused a short circuit, and that was the first theory, but it was incorrect, because it was shown that the trip broke loose after the initial explosion had started. It ran into the mine after the explosion started. It came, undoubtedly, from a blown-out shot or loose powder. You gentlemen know what a blown-out shot is, undoubtedly, and that is one of the very dangerous things in mining. The miners are only allowed to carry 5 pounds each. The conclusion seemed to be in the end, there were some powder cans found, and right near a blown-out shot, and right there seemed to be where the heat started, which nobody lives to tell. Then the fire from the explosion of powder or from the blown-out shot, whichever it was, ignited whatever there was there to be ignited, some dust in suspension, or whatever gases were there, too little to be dangerous by themselves.

Mr. HALL. What is a blown-out shot?

Mr. FLEMING. In all regions that I know of, at least, there is an undercut, either with machines or with a pick, and maybe a side cut, and they drill a hole in the coal above that and put powder in and a fuse and blow the coal down—blow a good many tons down. The

powder is tamped into the hole with coal or with clay. Of course if there is a blown-out shot it will blow that out, and that makes a lot of dust to ignite, if it is tamped with coal. If it was tamped with clay, it would not make so much. Now, a blown-out shot is a shot that does not blow the coal down, but it will create a streak of fire 25 or 50 feet long.

Mr. HALL. It blows the tamping out?

Mr. FLEMING. It blows the tamping out, and there is a great deal of heat, and if there is loose coal it creates considerable dust, and if there is any gas in the dust or in the mine, however little, of course it accelerates the explosion. Now, whether this was a blown-out shot or an explosion of powder, the heat was very great, and it generated—manufactured—gas there in enormous quantities; millions of feet, our chemist calculates. The coal was coked for three-quarters of an inch deep in the solid. Just think of a heat that will coke coal three-quarters of an inch deep in the solid.

Mr. WHITE. That was on the face of the coal.

Mr. FLEMING. In the solid. And of course it coked and burned whatever loose coal and dust there was. The gas that was generated from the coal that was lying around and from the dust and from the coal in the solid that was burned made an immense amount, millions of feet, of manufactured gas, all of which exploded. It was just as explosive as the natural gas; and those explosions leaped successively from place to place, until the whole mine was covered and involved, going in different directions.

Mr. CHANEY. It would go in all directions, naturally, from the original heat.

Mr. FLEMING. Yes. It would miss some places, occasionally.

Mr. ENGLEBRIGHT. And then catch?

Mr. FLEMING. Yes; and then catch up again.

Mr. ENGLEBRIGHT. What was it you wanted to say as to the question of powder?

Mr. FLEMING. Oh, yes. Up to that time we used black powder, but since that we have used in all the mines where there seemed to be any gas, and the driest coal, what they call "flameless powder," masurite powder, and we think it is safer, and we forbid the men to tamp with coal, and require them to tamp with clay. It is very hard to make them do what you tell them to, however. Then we have shot firers, and wherever it is required, in the worst mines, we do not allow the men to do their own shooting. A shooter goes to a hole drilled by the miner, and if it is drilled in the solid, trying to blow down coal that ought to be undercut, the shot firer condemns that hole and does not put a shot in it, and the man loses that hole and has to drill another.

Now, gentlemen, I think that the explanation I have given you of that worst disaster, and you can inquire anything else about it if you like, shows the importance of investigations that have never been made and that we can not make. We have made all that we can make.

Mr. CHANEY. Is it worth while to put this investigating bureau into the Geological Survey?

Mr. ENGLEBRIGHT. Or to have a separate bureau of it?

Mr. FLEMING. I have always supposed it would be a separate bureau. That is a matter of detail that you gentlemen are more fa-

miliar with than I am. I supposed that the geological department works side by side with the division of mines and mining.

Mr. CHANEY. And they would cooperate with the regular Geological Service?

Mr. FLEMING. I should think they would. It would be more effective, however, if it was a separate department.

Mr. CHANEY. Do you mean to say that a bureau of mines and mining would be useful without being in connection with the Geological Survey?

Mr. FLEMING. Well, I suppose they would work together; yes, sir. This bill seems to contemplate a separate department, does it not?

Mr. CHANEY. Have you my bill there?

Mr. FLEMING. Yes, sir. Is that a separate department?

Mr. CHANEY. It is a separate bureau.

Mr. FLEMING. It is a separate bureau?

Mr. CHANEY. But in the Geological Survey branch of the work.

Mr. FLEMING. I took it that it was in the same department, but a separate bureau. That is my idea of it.

Mr. CHANEY. It is a separate bureau in the same department.

Mr. FLEMING. That occurs to me to be the thing that you want.

Mr. CHANEY. Here arises the proposition made by another bill introduced.

Mr. FLEMING. I have not seen that.

Mr. CHANEY. That this ought to go into the Department of Commerce and Labor, entirely disconnected with the Geological Survey office.

Mr. DOUGLAS. But do you know that the organic law of that Department puts it there?

Mr. CHANEY. No, I did not know that.

Mr. FLEMING. Those are things I do not know about. I just took it for granted that it would be a separate department.

Mr. DOUGLAS. If you have read the law, you know that the first thing that is put under the Department of Commerce and Labor is the matter of mining.

Mr. FLEMING. I have not heard any person, I believe, discuss the matter with a view of its going into the Department of Labor.

Mr. DOUGLAS. We all agree on the necessity of having a bureau of mines and mining somewhere; the question is where it should go, and the possibility of getting it through Congress is the thing doubtful.

Mr. FLEMING. It seems to me this is a matter that should be taken hold of by the Federal Government, and not left to the States and operators. I have endeavored to show that the operators can not do it. There are too many of them. It would require too many plants. There is too much scientific investigation to be made for operators to do it. The States can not do it; they will not do it right, and they would not undertake it, perhaps, and if they did there would be 30 or 40 of them getting out conflicting reports and recommendations, while all operators, I think, would be willing to follow and carry out the recommendations of the Department here.

Mr. CHANEY. At all events, we would be sure to secure uniformity in that way, in whatever result was reached.

Mr. FLEMING. There can not be any doubt but what it would reduce the number of accidents and prevent the loss of life, and no doubt prevent to a certain extent the waste in mining. I have a

memorandum here to refer to the great increase in accidents in the United States in the last few years, and the greater number of accidents and the greater loss of life, in this country, compared with the number of people working in mines as compared with other countries, where the governments have taken hold of this matter and have these scientific departments furnishing information to the operators.

Mr. HAMMOND. I understand you to say that you have a memorandum there?

Mr. FLEMING. I have a memorandum here, a pamphlet, which will explain that much better than I can, which came into my possession this morning, relating to coal-mine accidents and their causes and prevention. It seems to have been gotten up by the Geological Survey, by Clarence Hall and Mr. Snelling and Doctor Holmes.

Mr. HAMMOND. I would ask, if the governor has a memorandum showing the number of accidents here and the number of accidents elsewhere where there are scientific bureaus, that that be embodied in this report, so that the committee may have it.

Mr. FLEMING. Here it is. It is on page 6 of this bulletin. You will find at the top of that page a statement of the number of people killed in the mines of the United States per thousand. To show you how it is increasing, in 1895 it was 3, in 1900 it was 3.24, and five years afterwards, in 1906, it was 3.46. I have not anything since 1906.

In Belgium, where the Government has these scientific departments and furnishes the information required, to show how it has decreased there, from 1831 to 1840 it was 3.19 per thousand. In 1870 it was 2.60 per thousand. Their inspection and the work of the departments had decreased the number. In 1906 it was 1.02. Look at that decrease! This is on page 6. Now you can pass on from Belgium to other countries. In Prussia the number has decreased from 2.56 to 1.80. Now, can that decrease be because of anything but the regulation by these governments and the information they furnish, and can the number in the United States not be decreased in some way, and has not that number increased? I will show you what has been the increase in the United States. This is on page 8 of this pamphlet. From 1902 to 1906 the number of people killed was 3.39 per thousand. In France, practically during that time, it was 0.91. In Belgium it was 1 and in Great Britain it was 1.28. Those countries have these scientific departments. They have made these investigations which we are asking the Government of the United States to make with the hope that we can reduce now from 3.39 in 1906 to at least what it has been in those other countries. We certainly ought to have conditions here as they are in other countries, if we have the information. Why has it increased in the United States as these tables show? The answer to that shows the great necessity for this department. Why has it increased? Based on the thousand, the greater number of mines ought not to make an increase; but the mines are deeper where they are shaft mines, their haulage is farther, whether shaft or drift mines, and the territory worked out has increased so much, which brings us to the point which Mr. Wilson made about the generating of gas from the abandoned parts of the mines, and of course that is now one of the causes, that the mines are larger, partly worked out, still generating gas, and are more dusty than they used to be because

they cover more territory. One thing this scientific department might do that would tend above all other things to prevent accidents from dust would be to ascertain some way to dampen this dust, or prevent it from becoming dry by some other method than sprinkling, some atmospheric condition, some way of bringing the dampness into the mine through the ventilating current. As it is now, in the summer time there is not nearly so much likelihood of an explosion in a mine as in the winter. Why? Because the cold comes in and takes up the dampness in the mines and makes an explosion more likely. You hardly ever hear of an explosion in our mines in the summer time. It is nearly always in the winter that they occur.

Mr. CHANEY. I thought that might result from the fact that there is more coal mined out in the winter time.

Mr. FLEMING. No, sir; in most of our mines there is no difference. Where the mines are commercial mines there is no difference. They have their trade in the West and the East, putting the coal on the docks, and the little additional consumption to keep the people warm does not make any appreciable difference, in the larger mines. I think if you will look at the reports of the larger companies, at least, in most of the States you will find they are practically as busy one season as another.

Mr. CHANEY. We note quite a difference in coal mining out where I live; they mine more in winter.

Mr. FLEMING. That is chiefly for local consumption?

Mr. CHANEY. Yes; and then there is even more demand for it on the railroads, probably, especially in the winter and fall.

Mr. FLEMING. With us in the East there are local mines, and I suppose in Pennsylvania and other States; there is about half of our shipping to tide water and about half west. In the summer time the lake trade is good, putting it at the docks to go out next winter by rail, away out into the mountains. And east the same way. In the winter time when they can not ship coal by lake there is a greater demand for fuel coal, such as you speak of, but that just about makes up the difference, and our mines are just about as busy one part of the year as another. Now, if there could be something scientifically discovered that could be put into that atmosphere, into that air that is taken into the mines in the winter time, which would prevent the taking up of the dampness in the mine, you would do away with a great deal of danger from dust; and it does seem to me that something of that kind should be done. I am no chemist or part of a chemist, but it does seem to me that the talent of this country and the science that we have can discover, if their minds were put to it, with proper chemical tests and proper machinery, how many of these things that endanger the lives of miners and the property can be prevented. We can not do it. Have you gentlemen anything to inquire?

Mr. ENGLEBRIGHT. I think there is nothing further, Governor. I think you have covered the subject very thoroughly, showing the necessity of a bureau of this kind, and pointing out where certain lines of investigation can be taken up profitably.

Mr. FLEMING. I will say further, gentlemen, that if these explosions are going to continue we will have to go out of business. We can not stand it. Another such explosion as we had would kill us all. I heard the president of the company say that he could not stand another;

that he would not try to; that it would kill him. They are awful things. No one can understand it without seeing it, and those of us who have been through it just simply insist that something ought to be done; and certainly it is the province of the Government to do it, when you consider this great industry, second to none in the country, not only to conserve the coal and prevent its waste and the destruction of property, but above all to prevent the loss of life.

Mr. DOUGLAS. Mr. Chairman, I must say again that while this has been most interesting, and I have enjoyed the Governor's talk, I do not think we are in favor of a bureau of mines——

Mr. CHANEY. Will you allow me to make this suggestion?

Mr. DOUGLAS. Yes.

Mr. CHANEY. You and I are thoroughly convinced of the necessity of this bureau.

Mr. DOUGLAS. Yes.

Mr. CHANEY. But do you know of anybody else outside of this room who is?

Mr. DOUGLAS. The whole country.

Mr. CHANEY. I do not think so. I came up to the Capitol with a Senator the other morning, and he said: "I hope we will not have to establish any more bureaus. There is no use of it."

Mr. DOUGLAS. I think that is the general disposition.

Mr. CHANEY. There are some people who will require us to show the necessity for this, and you will find that there are a great many persons who belong to our end of the Capitol who will have to be convinced of the necessity for this, and you will find that it is very good stuff for our use, and I hope we will not fail to get out all the good reasons for it. The miners in my country have been quite in earnest about it for some time, as Mr. Wilson knows. He comes out in our country and tramps down the grass quite a good deal, and he knows about it.

At 12.45 o'clock p. m. the committee took a recess until 2 o'clock p. m.

COMMITTEE ON MINES AND MINING,
HOUSE OF REPRESENTATIVES,
Monday, March 9, 1908.

The subcommittee met, pursuant to the taking of recess, at 2 o'clock p. m.

**STATEMENT OF MR. J. H. WALKER, OF DANVILLE, ILL., STATE
PRESIDENT OF THE MINERS' ORGANIZATION OF ILLINOIS.**

Mr. WALKER. Mr. Chairman, there is not a great deal left to say after what was said this morning, and I might say that anything I have to present to this committee will not be from a theoretical point of view at all; anything I know about the subject I got as a practical miner.

Mr. ENGLEBRIGHT. That is what we want.

Mr. WALKER. I speak from my experience in the mines. For the last six years I have been acting as an official of the organization,

and while in that capacity I hear of some of the complaints that the other side have to make.

Of course the main point the miners are interested in is the saving of life and the making more healthful their occupation. The phase of it mentioned by Mr. White this morning has appealed to me a great many times, and I have mentioned it publicly, and that is the waste connected with it. I just want to mention this in passing. In the district I come from, particularly where I live, the Danville district, the town of Danville has been practically made by reason of the coal deposits there; there is not any coal left for a roof there; there is not any of the loss spoken of by men of one vein under the other—the loss that Mr. White spoke of this morning. But the mining out of that vein itself, the way they have to mine it in order to be able to meet industrial and commercial demands at the present time, compels them to work it in such a way that, without exaggeration, I know I am absolutely safe in saying that there is 40 per cent of that coal left in the ground, and it is left in such a shape that it will be almost impossible to ever get it again. I know that it will cost 1,000 per cent more money to get it up, if they ever attempt to get it out, than what it costs to take it out at this time, and the danger to life will be 1,000 per cent more in getting it out than it would be if they took the necessary steps to get it out at this time.

The CHAIRMAN. Could you not tell us how that happens to be left there? You understand that we are not all coal miners.

Mr. WALKER. They work it on the room and pillar system in order to get air in at all; they work two entries, one alongside of the other. The air goes in one and comes back out the other always, and you have to leave a pillar in between. In turning the rooms off they have to leave the pillars between each room, and the pillars they leave in are nearly always almost an equivalent to the amount of coal that is taken out, and there is not 5 per cent of those pillars that are taken out at all. When they strike a piece of roof that is exceptionally poor they leave that in there altogether. There are places where there are hundreds of acres that are not touched at all.

Mr. HALL. It is a question of leaving a sufficient support for the roof?

Mr. WALKER. No; bad roof. It would cost them so much in cleaning and putting in the necessary timber that they could not take it out and compete with operators who are mining coal in the more favorable natural conditions.

Mr. HALL. These pillars are left.

Mr. WALKER. These pillars are left, and in the course of time the roof comes in, the strata is all broken up, the water comes in, and it would be next to impossible to ever get it out. I have had some experience, actually worked in one place where they mined one vein under the other, with about 50 feet between the two, and it was only a 2½-foot working, coal and clay; they would not take out more than 2½ feet, and there were 50 feet of pretty good, solid strata between those two veins. But the natural settlement that occurred after that coal was broken up broke up the roof of the strata above the top vein they were working in when I worked there to that extent that they had to sink ten mines for one; it took ten mines, I expect more than that, sunk to be able to get out the amount of coal that one mine would have gotten out had they sunk it in the first place. Lots of it

was lost, so it was an absolute impossibility unless they worked it according to the plan Mr. Englebright suggested; that is, sink the shaft for that one particular place. There is this difference, Mr. Englebright, about mining out coal and getting gold in the gravel pit, as you mentioned this morning; you could not use one shaft and let it cave in again at all. If you let it cave in you would have to move out.

Mr. ENGLEBRIGHT. They always leave pillars around the shafts, you know.

Mr. WALKER. Yes; but that coal does not move; it would not cave back into the place where you had taken the other coal out at all. You would have to go on farther along in order to get the next. It would not fall back in at all, as gravel does.

From the point of view of an American citizen who wishes to conserve the fuel supply that we have, for the sake of the people who will be in this country, interested in this country, there is no question but that something ought to be done to utilize that fuel in such a way that people would be able to get the full benefit of it, and it can be done. The way things are now it would be an impossibility to do it. You can not enact legislation in a State and compel them to take out all that coal, because if you do you increase the cost of that coal to that extent that they would not be able to sell one pound of it on the market, for wherever that condition was not enforced in other States they would be able to ship in their coal and undersell them, and on that account it would be only through Federal legislation that it would be possible to make that effective.

Mr. HAMILTON. Just a word. Could we, by Federal legislation, compel the private ownership of coal mines to take out a load of coal if they did not want to?

Mr. WALKER. I will say I am not a lawyer, but I have read mining law very carefully, and I went through that law, a book about as thick as those three cases, the definitions and opinions of different judges, and I think it is so broad that if this Congress took the position that it was absolutely necessary and in the interest of the people of this country that that should be done, they would have that right.

Mr. HAMILTON. There is not any question but what it is to the interests of the people. It ought to be done if we can do it.

Mr. WALKER. I think you have that right under the law.

There is one proposition that is in actual operation now that we might cite as a reason why a bureau of mines might be beneficial in the way of saving life. We have in the State of Illinois a shot-firers law in operation. The miners have to pay the cost of those shot firers now. They have to deduct out of their already too small wages whatever it takes to pay the cost of these shot firers, but we find out since those shot firers were established there and started to work it has eliminated, it has been the means of saving at least 50 per cent of the lives that were lost from explosions of powder in those mines up to that time. There have been 50 per cent less lives lost in proportion to the men employed since the shot firers went in there than there were prior to that time. That only exists in Illinois, I believe. In the other States it is a question of what the miners and operators themselves have individually done.

Mr. ENGLEBRIGHT. Has not Pennsylvania a law something about shot firers?

Mr. WALKER. No; I do not think so. It leaves me strongly of the impression that if that accomplished that effect where there is less gas, and I think less danger of men being killed, there is less danger of handling powder than in almost any State in the Union; if that accomplished that effect there, it would be bound to have the same effect almost anywhere else in this country if it was put into operation. A Federal mining bureau would have taken up the question in a general way; their recommendations would have been made in a general way. I do not know whether you could pass a Federal law of that kind, but if they could have enacted the law and made it apply in the country everywhere there is no doubt but its effect would have been the means of having it established in almost every State in the Union, and it would have saved those lives—would save lives that are being lost every day because of the irregular and irresponsible system of handling just that one phase of the situation now. Since the shot firers went into effect in Illinois we have found that, speaking plainly, the powder question, where there is no gas, is the one question that, more than any other, is responsible for the accidents that occur there in Illinois. As you know, we have a contract over there to buy our powder from the operators. The majority of the operators, I believe, do not want to take any advantage in the way of introducing inferior powder at all; they know what it means; it means trouble in their mines as well as loss to the miners and loss in output to them whenever anything of that kind occurs. But with the operators doing the best they can and the miners doing the best they can, accidents will occur right along because of the present situation. You may get a shipment or a dozen shipments of powder and they are all uniform. If a man drills a hole and puts it in it will do all right. Then along comes another shipment, some brand, some grade, and all labeled the same, and everything, to all intents and purposes the same, and it will not have more than half or two-thirds of the strength that the other powder had; and you know the windy-shot proposition; it is not a question of putting too much powder in the hole.

Mr. WILSON. A windy shot and a blown-out shot are one and the same thing?

Mr. WALKER. Yes, sir; it is a hole where there is not enough powder in the hole to create a windy shot or a blown-out shot, where there is not enough powder in the hole to work the coal off that it is supposed to work off, and you can have a shot just as square and as nice as it is possible for a man to make a shot, and when you get a cartridge full of that powder that has not the strength that the powder you have been using had and you put it in there it does not matter how nice you want to make it at all it will blow out, and if the conditions are favorable it will make an explosion.

Mr. HALL. Do you know anything about the Masurite powder mentioned here this morning?

Mr. WALKER. Yes, sir. Speaking confidentially with men who are representatives of the powder companies in this country—I do not know that they would want to be quoted—they told me they did not care to get in bad with the company they were working for, but they just told me that it was unsatisfactory and there was not a powder up to this time that was absolutely safe; there was a degree more safety than there was in the black powder, but it was not absolutely

safe, and the danger in handling it itself as compared with the other powder was so much greater that it more than offset the possibility of saving lives through accidental explosion.

Mr. ENGLEBRIGHT. Do you use principally black powder; no dynamite?

Mr. WALKER. We use all black powder in Illinois. I never used any dynamite myself. I understand sometimes that men take dynamite, although it is against the law, and they are shown no mercy if they are found out. I should say it is not against the law, but it is a violation of our contract.

Mr. WILSON. Do you use dynamite in shooting rock?

Mr. WALKER. Oh, yes; in shooting rock.

Mr. WILSON. Another question in connection with the blown-out shots; you stated that the shots having the smaller charge were the ones that blew out. Is it not a fact that powder, like all other explosives, seeks the point of least resistance, and with the tamping in the hole behind the shot weaker than the hole itself, would not the result be, if there were not a sufficient amount of powder to do the entire work, that it expends itself in blowing out the tamping.

Mr. WALKER. There is no question about it; I assumed that these gentlemen understood that. The miners think they are entitled to this bureau in the face of what has been done for the public generally, and think they are entitled to it from another point of view. They buy this stuff; it takes a large per cent of their earnings to buy it, and if it is other than it is labeled, other than it is represented to be, there is just as much a fraud perpetrated upon them as there would be if you adulterated food stuffs which were labeled as pure. It affects them in that way. Whenever a keg of inferior powder is put in the man's hands, he has to pay the same price for it, and the chances are that through using it, not knowing what it would do, he will lose, in addition to what he lost paying for stuff that he did not get, an equivalent to a day or two days' work before that powder is used up. It is a big loss to the miner, and in the long run it works a loss to the operator, because he does not get as good results; it breaks the roof, rock comes down, and it is disastrous all around.

Mr. HAMILTON. What is the difficulty with this inferior powder, Mr. Walker? That is, you say it is not so strong, but is it mixed with something else?

Mr. WALKER. There are saltpeter powders and soda powders. But men who have had actual experience, both in using powder and making it, know that generally there is not so much difference in the ingredients in the powder. There is a difference; there is some sort of soda, and they know that if they use it altogether it means a saving of, say, 5 or 10 per cent in the cost of making the powder. But the pressure that is used, when it is in the doughy state, preparatory to putting into grains, cutting into grains, they say there is where the greatest difference occurs, and in the length of time that it is under that pressure. Powder companies, when they have orders for more powder than the factory has a capacity for, slight the powder in some way and send it out.

Mr. ENGLEBRIGHT. What would you consider a proper line of investigation for the Government to take on the powder question?

Mr. WALKER. I believe that if the Government, through analysis, were able to set down the ingredients and processes that each specific

brand of powder must go through, and have inspectors so that such shop and company would not know what day a keg of its powder was going to be taken up and tested, and if they were found wanting there would be a penalty applied for it—I believe that if that was done, it would eliminate practically all the danger that arises through that source, and I believe that is the only way it can be done.

Mr. ENGLEBRIGHT. Would not that properly come under the head of a State law, so far as any law, examination, and so forth, is concerned?

Mr. HALL. It would depend upon whether it was a State transaction or an interstate shipment.

Mr. WILSON. Would it not be possible to come under the Federal supervision for all material offered for interstate shipment?

Mr. HALL. Interstate shipment.

Mr. WALKER. I am satisfied that if the Federal Government took steps to provide for that portion of the powder that came within the meaning of the interstate-commerce act, that the States could hardly help taking the necessary steps to provide for the rest of it, that which was manufactured to use locally in each State. I know it would be the means of saving, I expect, 50 per cent of accidents that occur in Illinois now from those causes, and would be beneficial to the miner, of course, and to the operator. He would know, when he paid for his powder, just what it was, and if there were any blown-out shots, it would be a question of bad judgment. To-day in Illinois there are four or five companies, and when you get one keg of powder, after you use one and get the next keg, you are not sure, when you put it in the hole, what it is going to do. There is continual trouble, continual blown-out shots, and those are generally the causes of the accidents. I will state that there is not much gas, and on that account we have not the amount of explosions there are in the rest of the places; there is not that danger there, but even the way it is there are 50 per cent of accidents that occur there now from these causes that would not happen if there was such a regulation.

Mr. CALLBREATH. Does the strength of the coal to be blown out determine the amount of the powder?

Mr. WALKER. There is no doubt that the strength of coal would determine the amount of powder to be used in each hole, and after you have once determined that and have the standard by which to work in shooting that coal, then, although the coal remains stationary, if the powder changes in its power, it will have the same effect.

Mr. CALLBREATH. But the same class of powder that might be advisable to use in Illinois might be entirely too strong to use in Virginia.

Mr. WALKER. There is no question to a practical mining man about that. We know that soft clay will take one kind of powder and hard clay another. That is a matter that will be adjusted locally. Experience will settle that question, and it does settle it very shortly after a mine is in operation. After we get that settled, then if we had the powder question settled and knew just what it was, the danger of these explosions would be eliminated.

Mr. HALL. What you desire to do is to secure uniformity as to certain grades?

Mr. WALKER. Yes, sir; and we thought, too, that the oil question would come in the same sort of supervision. In the mines the smoke

and gas created by oil depend on the grade of oil that is used, and that is one of the things which makes it mighty unhealthful for the men working in the mines, namely, to have to swallow very much smoke from the oil. There is not anything that is harder to get out of your system. But we know that there are oils which give practically no smoke. They have a sort of a test over there, and the inspectors tell me that if there is a man living who can determine under that test whether a man is entitled to be fined or not, whether he is furnishing a grade which he should furnish, they would like to see him, because there is not one of them who can do anything with it at all. If we have that analyzed, it would be the means of making it a good deal more healthful for a miner, for after a man goes in a mile or a half a mile away from the direct supply of air, there is a great deal of gas, and gases of different kinds generated, and doing the best you can you can not get pure air into the mine. If there are five or six hundred men working in that mine with lamps on their heads burning inferior oil, by the time the air gets to the last man it would knock you down, it is horrible. These are some of the things that a bureau of this kind might have some effect in regulating.

Mr. HALL. Do you know, Mr. Walker, whether there have been any experiments to determine whether the oil of a high specific gravity as compared with that of a low specific gravity gave off more or less smoke and gas?

Mr. WALKER. They have a law to regulate the oil question in Illinois, now; it is a State question.

Mr. HALL. We have in our State, now; that is the reason I asked that question.

Mr. WALKER. I am not sufficiently acquainted with the different propositions in oil to be able to give you an intelligent answer to that question. But what we are contending with over there is that under that law they can not do anything.

Mr. HALL. We have a law in our State that prescribes the specific gravity of illuminating oils and excludes those which are too heavy because they give off too much gas.

Mr. WALKER. They are supposed to be excluded in Illinois the same way. The facts are that when it comes down to arresting some one for shipping inferior oil and giving in evidence in court to convict him, there is not any one in court to do it.

Mr. ENGLEBRIGHT. They do not use any candles? Out West we use nearly all candles.

Mr. WALKER. I have used some myself, and I believe they are a big improvement, so far as making the smoke is concerned, over the lamps.

Mr. ENGLEBRIGHT. But more expensive.

Mr. WALKER. You take the quartz mines; a man is right at his place all the time, nearly all the time, but in a coal mine you are going up and down everywhere all the time. In the first place, the current of air that has to be put through coal mines in order to make the air what it should be for the men at the face, has to be so strong; you know how it is with a strong current of air with a candle; it would burn the crown off your head before you were in there a half an hour or more, and you have to have lamps in a coal mine; candles would not be successful.

Mr. WILSON. What is your experience with the short tallow lamp?

Mr. WALKER. Oh, I just threw them away.

Mr. ENGLEBRIGHT. I think I mentioned this subject this morning, but I am not certain. On my recent visit to a coal mine, which I made out of curiosity, everything in the mine appeared black, every speck of light that hits the wall, or anything, is immediately dissolved. If you want to see anything, you have to hold your light where you want to see, and you see mighty poorly then. Of course, a great many accidents in mines are caused by caves, the caving in of the roof, and so on. Is not the fact of the poor light the cause of a good many caves happening, so that you do not anticipate them?

Mr. WALKER. Not with a practical coal miner. A practical miner or a man who is careless might, in isolated cases, have a tendency to slight something he should do, but the practical miner generally takes care to find out what is in his place.

Mr. WILSON. Is it not a fact that a practical coal miner depends upon the sound rather than the sight to determine whether a piece of roof or a piece of coal is unsound or unsafe?

Mr. WALKER. Always.

Mr. HALL. Would the use of electricity for lighting purposes be practical in mines?

Mr. WALKER. It would be practical where there was no danger of gas explosions, I believe. It would require a good deal of it, but I am satisfied that it could be used. I do not know whether it would be practical along the walls of mines or not, but where the roof is anyway good at all it could be used all right.

Mr. HALL. Would there be any particular danger, so far as gas is concerned, where the wires were properly insulated and incandescent lights were used?

Mr. WALKER. That is a question I would not be able to answer definitely.

Mr. HALL. You mean the gas proposition?

Mr. WALKER. There is just this danger, of a piece of flying coal cutting the insulation, creating a spark of fire, and causing trouble. Electric lights could be worked to success, I think, so far as the roadways are concerned. At the face it would be a handicap, where a man had to go up and down the place, from one place to another; he would be handicapped, and it would not work out successfully, I believe; but so far as the roadway is concerned it would simply be a question of putting enough of them in, and where there is no danger of explosions from gas it could be worked successfully.

Mr. WILSON. Is it not a fact that before the white heat of a filament in a bulb is extinguished it must come in contact with air? In other words, if you break a bulb the air must come in contact with that before the white heat is extinguished?

Mr. WALKER. I have been told that; I am not an expert.

Mr. WILSON. Assuming that to be the case, if a bulb was broken, as there would be danger of its being broken in a mine, while the current was on, would there not be danger of explosion?

Mr. WALKER. If there is any danger of explosion from fire damp, I do not believe the electric lights could be worked successfully. There is no question that there would be danger from the use of them, but where there is no danger from explosion from gas they could be used successfully.

Mr. WILSON. If there is no definite knowledge, would it not be a proper subject for a bureau to investigate?

Mr. WALKER. I expect it would. Of course the investigation of cases and the determination of just what their effect would be, singly and in combination, and the rise and fall of the barometer and the effect of mixtures of those gases, either singly or mixtures of them with the different kinds of coal dust at the different temperatures, would be matters of investigation, I think, in laboratories. But once those things could be determined, there is no question but what it would go a long way toward avoiding the explosions that we have. If you notice, you read the history of coal-mining industries, and you will see that every fall, as the cold weather comes in, every year almost, there have been numbers of explosions, so that the temperature of the air, the condition of the air itself, has something to do with the combustion or the possibility of creating an explosion. As Governor Flemming said this morning, it is possible that the coal dust in a mine he had reference to did not mix with water. There are some coal dusts that will mix with water. I have worked in some that mix with water, and the chances are that the difference in the quality of the coal dust would have some effect on its liability to explosions mixed with different gases.

Mr. ENGLEBRIGHT. I would like to ask you just one question right here. I do not want you to mention names, places, or anything else, but have you noticed any great difference in going to different mines, in some mines being kept clean and the dust kept in proper shape and others not?

Mr. WALKER. Yes; there is no question about that at all. The way our things are now it is largely a question of what the individual wants to do. There are some individuals who are operating coal mines who have that amount of humanity in them and regard for human life that of their own volition they will take every precaution to try to prevent accidents.

Mr. ENGLEBRIGHT. Right in that same line, of course, we have large mines, and we have small mines; we have mines operated by a few individuals, working just nip and tuck to make that mine pay. We have other mines where they are working to every advantage, every facility, and it is paying better. Would you notice any difference owing to such conditions?

Mr. WALKER. Well, my experience has been that a man who is making a good, big profit off his mines will take more precautions; at least, he will spend more money in providing precautions against accident than he would if he had a mine that was just on the surface and it was just nip and tuck whether he would go up or down.

Mr. WILSON. Would it not be, to a great extent, according to the nature or disposition of the man in charge?

Mr. WALKER. There is no question but what there are some men, but I think they are exceptions, Mr. Wilson. The ordinary man in a business of that kind is just about as I have stated. There are some men, I know one man, particularly, who is at the head of, I expect, one of the largest companies in our district. He will close the mine down rather than disregard the ordinary precautions—yes, and a little more than the ordinary precautions—in order to prevent accidents and loss of life, if that is what it means in order to run the

mine at an advantage to himself. They have closed down, they have put on more men than the law would compel them to, and taken more precautions. In some instances it is an exception. The ordinary individual in the coal-mining business, if he is making plenty of money, does not mind spending some of it in a precautionary way, but the same individual, if he is running on a very close margin, then he is not so particular and it takes a little more effort to get him to spend the money necessary to provide the proper safeguards.

There are matters that I am satisfied a bureau of this kind could regulate in a way that would be beneficial and save the loss of a good many lives and prevent a good many accidents. Take, for instance, one phase of it, the driving and trip riding. In the majority of mines there is no provision made for having everywhere room where a driver or trip rider could jump off in case of an accident. I expect that in more than 50 per cent of the mines there is not one place in 40 or 50 feet where, if something happened quick, he could step off to one side and let the trip go by, and in 95 per cent of the cases, all over the country, the driver rides the front end, or the trip rider rides the front end, and if you will notice in the statistics everywhere of accidents in coal mines, both deaths and accidents otherwise, you will find out that there is a large per cent of drivers injured because of that very fact. I do not believe that there is really any good reason why that driver should ride at the head of that trip. Where the company does not provide the safeguard, a place where they could step off in case of accidents of some kind, where they would be safe to let the trip go by, a Federal inquiry or a State inquiry into the matter might do some good. There is never any argument made on that proposition; they do not attempt to defend themselves, and in some cases there are laws providing, I think, for manholes being put every 20 or 30 feet, but there are lots of cases where these drivers run into one another. A trip may run away, a car will become uncoupled on the ride and another driver right behind it, and it will happen within that 20 feet, and he will go jammed into that. He either ought to be riding behind or there ought to be a place where he could get off where there is liability of an accident of that kind, and there are hundreds of them who get killed, get their legs and backs broken, just under those circumstances, where a reasonable precaution one way or the other, either compelling them to ride the back end or have a place where the man could get off, would prevent a great many of those accidents.

It is just the same in the case of falling rock. There are some objections to the proposition mentioned by Mr. Wilson about putting a cent levy on each ton of coal the same as an internal revenue, providing that it should go to the heirs of the man who gets killed, or himself if he gets injured. They say that if that is done they ought to be absolved from all responsibility. Here is just the situation: There is not any man, unless he wants to commit suicide, going to get himself hurt if he can avoid it at all, and I leave it to you, gentlemen, if a man wanted to commit suicide, he would not go down in a mine and pull a rock down on himself; he could find a more pleasant and effective way to do it than that. The way it is now, there is a sort of contributory negligence phase of the law which enters into all damage suits. It is the company's business in every case to prove

that it is contributory negligence, and it is the business of the man suing for damages to prove that it is the company's fault in not providing the proper safeguards; and there is not a practical mining man, if he will look his conscience squarely in the face and tell the truth about it, who will not acknowledge to you that it is not a question of enforcing the law to safeguard the lives and the limbs of the men who are working there, as much as it is a question of being safe from damage suits in most of them. It does not matter whether they have to provide some outside means of making themselves safe. They have regular bureaus established doing nothing else except proving that it was contributory negligence that was the cause of the different accidents that occurred.

The individual has not anything like the same defense at all. He is an individual alone, without knowledge of law, in almost every instance going up against a company that has societies—I guess you are all aware of them—indemnity associations all over this country, who have trained lawyers and trained men in the different industries, and particularly in the coal-mining industry. They know the questions to ask and the answers to get. It is not a question of the law, but it is a question of avoiding indemnity in an accident suit. Yet this proposition is just the same in a general way as all the matters in this connection, and I only mention it here. I am satisfied that if this bureau is established and they are given authority to investigate, and you provide them with the equipment and the funds necessary to make these researches, that it will mean, before the end of five years, that there will be reasonable laws enacted in the different States, and that there will be some means whereby they will be enforced. The main point, though, I think, will be for this bureau; I think they will accomplish more than in any other operation, if they will provide some means, and have it enacted into law, of seeing that the different laws providing for the precautions being taken are enforced actively. There is a great majority of the operators themselves who do not want to avoid any of the responsibilities of that kind. There are a few isolated cases where they would not hesitate to evade responsibilities of that kind.

If you know anything about managing a coal mine, you know the mine manager who is able to put the finished product in the flat or the car at the cheapest possible figure is the man who gets the recommendation from the company and who stands the highest and rests the easiest with them. We know that in a great many cases where they have gotten instructions from the owner himself to comply with every law and provide precautions for saving life and limb the manager, in order to make himself a little better off and stand in with the company, will evade these laws, and the operator himself in ninety-nine cases out of a hundred does not go near the mine and does not know it himself. Of course there are some managers who get careless; they leave things to men under them to do and, like the operator, take it for granted that they are done. These people evade their responsibilities and their duty, and if they could provide some means of seeing that those laws are strictly enforced, they would, I think, accomplish more than they will in almost any other line of research or action that they will take up. In this country it is not like it is in the majority of countries, where this thing has been taken up by the mining bureaus. I do not know of a country where you could go in

and violate a mining law, and anybody know about it, where you would not have to pay a heavy fine. In this country, I venture to say, there is not a coal mine, hardly, that is run in strict compliance with the laws that are enacted in the different States. Some of the laws are impracticable, and some of them are, either through ignorance or otherwise, evaded, but there is hardly a mine that is run in strict compliance with the wording of the law.

I have heard operators admit that they were satisfied—and even in our State—that there was not a mine being run in the State in compliance with the law. It is evident to you, from what Mr. Fleming said to you this morning—he said they have chemists, they have laboratories, they have privately furnished means to try to find out where the danger is. Those operators every year say just about the same, and there you are, and there is not one of you, I suppose, who is not willing and wants the worst way to do something that may eliminate the danger of these accidents, both in explosions, loss of life and limb, and all that. But unless we have some provision made to carry on investigations by men who have every facility to do the work, it is going to be impossible to get the laws framed just right and know how to go about it to enforce them, and I think there are laws in the different States to-day that are impracticable laws. Men know what is wrong and they are trying to provide something that will eliminate the danger, and they are doing the best they can in order to do it. You know how it is when there is an explosion and men lose their lives. Everybody gets interested, intensely interested; they want to do something, and without thorough knowledge of the subject they do the best they can, and they pass laws that either do not accomplish what they are trying to, or are impracticable; but the thing has gotten to the place now, however, where, I think, there is no good reason why poor laws should be made in the United States on these questions. I do not think there is any good reason that can be assigned why there should not be good laws which would eliminate almost 99 per cent of the deaths and accidents that occur in our mines in this country.

MR. CHANEY. If they would be eliminated to that extent, it would pay to work it out.

MR. ENGLEBRIGHT. If you can get it 50 per cent you would do a great deal.

MR. WALKER. If you get it 50 per cent, it would be just about as easy to get it another 50 per cent.

MR. WHITE. Have you thought about what can be done to provide a higher order of intelligence and information on the part of the miners themselves? In other words, the most intelligent miner has no greater safety for his life than the most careless and the most ignorant one.

MR. WALKER. I expected to mention that matter, and I want to have you believe, if you can, that I am not biased in the matter at all. All men, almost, look alike to me. I have just about as much respect for an honest man coming from one country as for a man who has been born and raised in another country, and if he goes into a mine I think his life should be safeguarded just as much as the life of any other man. There is no question but what men are taken into the mines, however, and are put in charge of places, in dangerous mines, where there is danger of explosion, who never saw a mine

before in their lives, and do not know anything about the danger they are working in at all. The practical coal miner gets careless at times; there is no question about that; but it is generally where he gets careless where the thing is practically safe. Where he gets nipped at times is where something almost extraordinary happens, because everything is looking safe and he has been working along without paying particular attention to himself. The majority of these accidents which occur from the ignorance of the men actually do occur as a result of the action of the men who are brought in there who are not practical coal miners at all. We have been trying, in Illinois, to get a qualification act established. The operators themselves, in joint conference with us, after going over it carefully, agreed with us that they would raise no opposition to it.

Mr. WILSON. Is it not a fact that the ignorance of one man in a coal mine endangers the lives of all the others that are working in the mine?

Mr. WALKER. Where there is danger of explosion.

Mr. WILSON. From gas or from blown-out shots.

Mr. WALKER. Yes; where there is an explosion from a blown-out shot it is an explosion just the same, and where he is working on an entry, if you go past that entry you generally go past there with a running jump, because he may have put a shot there and it is likely to hit you going past his entry. That thing has occurred sometimes. But the real danger that we have—we have no danger from explosion—is that there are mines where there is great danger of dust or coal-gas explosion. There ought to be, and there must be if you are going to make them safe at all, some examination that the man should pass before he goes down there, and after you have made him pass an examination that shows him to be a practical miner who understands his business, then there must be some safeguards provided that would prevent him, even if he wanted to, from endangering the rest of the men in the mine. After you have done that, then you would have to provide some other matters to see that the fellow who has these matters in charge is compelled to do his work besides. In our mines, and in the ones in which there is no danger of explosions that would mean the blowing up of all the men, the conditions are such that a man going down into that mine should be able to pass an examination showing, when he is in charge, when he is at work at that mine, that he is qualified.

I can cite you an instance; I have seen a good many of them. In this particular instance the mine boss is dead and the man is dead, and I can repeat it without hurting anybody at all. I was taking up the collection for the widow in No. 3 mine, Kelly's, at one time, and in going through that mine I came to a place where there was what we call a greenhorn, Lithuanian, who was working. He could not speak English, and had just come to this country. There was a bad roof over him, but he could not tell a bad roof from a good roof, and he got almost under the face, and I stopped, started back, and hollered to that man to come out of there. He did not come out, and I took a jump in and brought him out. I went and got the men in the next place to him and explained what the danger was and had them go and see the place, and I told them to compel them to prop that place. Then I went out and met the mine manager, and I told him that if he allowed that man to work in there it was only a matter of

time before he would be killed, and if he did it now, when he knew the facts, it would be nothing more or less than murder. That mine manager told me he needed men and he could not afford to discharge any man who was willing to work there. "For the love of heaven," I said, "send some one in there who will take care of it." He said I was not getting paid anything for acting as mine manager, and I agreed with him. He said he had a certificate and he was qualified to run that business himself. But the next morning at 10 o'clock that man got killed in that place, and I happened to be on the mining committee, and I helped to bring him out. When I got to the door the mine manager was there. I did not need to say anything. The big tears were rolling down his cheeks. He said, "Walker, I hope you won't say anything to anybody about this thing." There was a fairly conscientious man acting as mine manager, who put that man in there and thought he would be able to take care of himself with the assistance he could get. That man had a family of seven children and his wife, and you can just understand what that meant. That is only one of hundreds of cases of that description that occur all over this country, and there is no question but that there should be some means provided for seeing that a man is qualified before he goes down into one of those mines.

Mr. CHANEY. Your point is that when this proposed Bureau is established some means can be contrived by which all these questions can be considered?

Mr. WALKER. Yes; I believe that if this Bureau is established and that is made their specific business, namely, to look after the mining industry, that it may have the proper equipment and competent men who will look into all these mining questions.

Mr. CHANEY. In a case like that you cite, I am inclined to think it is purely a question of the exercise of a little common sense.

Mr. WALKER. No; had that man been compelled to undergo a simple examination in the common things of mining, had he only been compelled to demonstrate that he knew when a rock was bad over his head, or when it was good, he would not have got down into the mine at all; he did not know a thing about it. In general cases, where there is no danger of explosions, a general qualification could be applied, but where there is danger of an explosion, either dust or gas, from blown-out shots, there should be proper laws made to apply to those particular mines, and in that way I believe you would eliminate the danger.

Mr. CHANEY. The competent mine manager would have saved that.

Mr. WALKER. He was considered to be about one of the most competent there was in that State.

Mr. ENGLEBRIGHT. But he was careless. Is it not a fact that every man who has anything to do with a mine, from the general manager down to the humblest car boy, is in a position of trust in a mine of that kind?

Mr. WALKER. He is, but there is also another feature that enters into it, Mr. Chairman. Take my own field as an illustration. I can speak with authority on the question. There was a man who held the position of mine examiner, and that is really one of the most important positions there is in a mine if a man is conscientious and carries out his duties in that sort of a way. The mine examiner, if

he marked the places and reported them as dangerous and in need of attending to, and stopped the places that should have been stopped, he would be compelled to leave, and it was simply a question put up to him in this way, "It will be easier for you, a good deal, to make out your report with everything as all right. You will draw your salary just the same." They would not state it to him in that language, but it would mean that. "You go ahead and do your work. It would cost us too much to do that work, and we are not going to do it." I expect you could find it all over the country just that way. Mining superintendents would be given instructions to carry into effect the law, provided that everything was done that could be done, giving them to understand that if it was carried into effect they would be discharged.

Mr. WILSON. The mine examiner in Illinois is the same as what is known as the fire boss in Pennsylvania and some other States?

Mr. WALKER. Yes.

Mr. HALL. Is he a public officer, or an employee of the company?

Mr. WALKER. An employee of the company, although the company is compelled to appoint him under the law.

Mr. HALL. But the company has his selection and the right of discharge?

Mr. WALKER. It has.

Mr. HALL. What do you think about making that a public office, where the company would not have the right of selection and discharge?

Mr. WALKER. If you have as much trouble as we would have, you might make it over here in Congress.

Mr. HUFF. Did it ever occur to you that the operator requests that officer to see to it that the mine is conducted for the safety of the miners and for the protection of life and to the best interests of the mine worker and owner?

Mr. WALKER. If I was operating a mine and I had one of those men hired to me, I would expect him to do that.

Mr. HUFF. Is not that what he is employed for? It would be a grave suggestion for you to make to this committee that the man would be discharged because he tells the operator the true condition of his mine. You must not make that statement unless you absolutely know it. I desire to say to you and to the committee that I am a mine operator, and I am more than surprised to hear you say that any mine operator, who has intelligence and is a man who has the welfare of his fellow-man at heart, will discharge a man because he tells him of the situation, and that he employs him to misrepresent the condition of the mine. That is going too far.

Mr. WILSON. Might I ask Mr. Huff a question?

Mr. HUFF. Yes.

Mr. WILSON. Are you in a position to say that all operators take the position that you now state?

Mr. HUFF. I am in a position to say that an operator must not without a trial be charged as a criminal, because that is what he would be purely and simply. I am not defending all operators; I am only saying that it should not be stated in a general way that a man will be discharged if he tells the true condition as he finds it, if that condition is not pleasing to the operator.

Mr. WILSON. If I understand Mr. Walker's position, he is stating now the incidents that came under his own personal knowledge.

Mr. HUFF. Mr. Walker has intimated there is not an honest operator in his State; or rather that all their mines are managed in this careless way, and that no man dare report conditions unfavorable to the owner.

Mr. WALKER. Oh, no; I did not say that exactly.

Mr. HUFF. You said in so many words, there was not a mine conducted in your State according to the law. It is a broad statement to say operators and mine examiners are all lawbreakers. I do not defend any mine operator; I only state it is too broad a charge to make. I hope the gentlemen of the subcommittee and all the gentlemen in the room will pardon me for having said one word. I did not come here to utter a syllable, and I hope the stenographer will not report me as saying anything, because I am here to learn, but I do not like to hear all operators and mine examiners classed as criminals.

Mr. WALKER. Mr. Huff, I expect that if you will ask the chairman of the operators association in Illinois about that matter he will tell you as frankly as I have made the statement here.

Mr. HUFF. I think you should carefully investigate, and if the situation is as you state it should be speedily corrected.

Mr. WILSON. I understand that the chairman of the operators' association of the State of Illinois will be here on Thursday for the purpose of appearing before this committee, and I suggest that Mr. Walker's remarks on that particular phase of the Illinois law be read and his opinion asked.

Mr. HUFF. That is better.

Mr. WILSON. The position, as I understand it, taken by Mr. Walker is that through lack of the necessary information in the formation of the laws, the mining laws of the State of Illinois, they have been made in such an impracticable manner that it becomes practically impossible to comply with them, and that because of that impracticability on the part of the laws of the State of Illinois, framed as a result of a lack of information as to what they should be, the operators and miners combined, of the State of Illinois, can not comply with it and do not comply with it.

Mr. CHANEY. Yes; but I understand that Mr. Walker does not say that they purposely violate the law.

Mr. WALKER. I think, if my full statement is read, you will see that it is because of the impractical laws that are there this condition arises, and that was one of the reasons I said that a bureau of this kind, given the necessary equipment and the funds and the time to make this their business and to enable them to frame proper laws, would be a great help.

Mr. ENGLEBRIGHT. What I understand Mr. Huff to be finding fault with is that there are certain fire bosses who are supposed to report everything, and you claim that they do not do it, by the order of their superiors. That is the statement that I understood Mr. Huff to take exception to.

Mr. HUFF. I do not feel that he should charge them with conniving for the sake of a few dollars to kill somebody, or hundreds of people, if you please. That is neither fair to the fire bosses, the mine

inspector, or the operators; but if the laws are lax, Mr. Walker, let us try to remedy them and not to make charges against anybody. I think our Pennsylvania laws do protect the operatives as nearly as possible, and I hope we are obeying them. Something may be learned to further safeguard life and to conserve the coal, as somebody, Governor Fleming and Mr. White, spoke this morning. We are all anxious to do this, also to avoid accidents, that the hazards of mining may be minimized, and thus the miners' occupation will be uplifted and benefited. I have too much respect for the coal miner, the coal boss, and the coal operator to believe that they would band together to destroy or take unnecessary risks for the sake of a few dollars.

Mr. WALKER. You will notice that my remarks on this subject came right down to where I was attempting to make the point that if this bureau was established I believe they would be able to find some means of having the laws enforced, and I went on to cite some of the things that I know of now, where even an enforcing of present laws would be a benefit. I went on to cite some laws that are now recognized as impracticable by both sides, that they could not live up to in a practical way at all and operate the mines with profit, because of the different accidents that had occurred: that men actually wanted to do something to eliminate them, and they did not have the necessary information to make the laws in such a way that they were practical and would eliminate the evil.

Mr. HALL. You did not intend to give the impression that it was a general practice among operators of mines to suppress information where it would be obvious that they had done so merely for the purpose of saving expense, although it would endanger human life?

Mr. WALKER. No. To begin with, I think I made this statement, that a majority of operators wanted to live up to the law, and they wanted voluntarily, of their own accord, to see that every safeguard was provided that the law required; that some of them went farther as individuals; that there were some of them who would not scruple to evade the law to their own profit, and that there were some managers in order to make things better for themselves with the people they work for, although the operator himself wanted to see that everything was done that ought to be done, would evade responsibility, and that a bureau of this kind would take the whole thing in charge and make a thorough investigation and require what the laws should be, and that I was satisfied that a bureau of this kind would find some means of seeing that these laws were enforced. The particular case that I was mentioning when Mr. Huff arose reminds me that I know one man, a superintendent, who failed to discharge his duties, at the suggestion of the operator.

Mr. HUFF. In that case the superintendent should have been dismissed or disciplined.

Mr. WALKER. You would have a job punishing them.

Mr. HALL. I take it that the distinction which Mr. Huff draws is this: That all mine operators should not be classified as suppressing these matters because some of them do.

Mr. WALKER. I am satisfied to agree with Mr. Huff on that proposition, but what I am trying to get at is this: That I do not believe there is a mining man on earth who has had practical experience but what knows that a great many of the accidents are directly attributable to their negligence or carelessness or evasion of existing law, and

if a bureau of this kind was established, when they found out what the facts were, if there was any possibility, and I am satisfied that there would be, they would provide some means of seeing that those laws were enforced, because there are some men who will take advantage, no matter what the cost is, and that is one of the things in the mining industry we have to contend with. Generally when things happen to that description they can not locate the real reason.

Mr. CHANEY. Of course you realize that however well prepared and however practicable laws may be, unless there is an earnest and honest administration of them, you could never correct these troubles and save these lives and avoid these accidents.

Mr. WALKER. That is true.

Mr. CHANEY. It would be those things that we are not well enough acquainted with yet, as to how to get at the difficulties, that this bureau would be able to reach. Things that we are well enough acquainted with now would not be considered very much by the proposed bureau; it would be those things that are not now thoroughly understood, and it would be their duty to try to find out the best and most practical way of discovering and avoiding these dangers and difficulties in the future.

Mr. WALKER. I think they would find out one of the things that would accomplish as much or more good than anything else would be to find some means of having whatever legislation was enacted enforced.

STATEMENT OF MR. W. D. VAN HORN, PRESIDENT OF THE INDIANA MINERS' ASSOCIATION.

Mr. VAN HORN. Mr. Chairman, it appears to me that the ground has been pretty well covered, and I will take up very little time. However, there are a few points that I want to bring out, if possible, to show why such a law should be enacted. As I understand it, this committee now rather desires points that can be used in argument in favor of enacting this law, as we have been given to understand that the committee is a unit, as far as they are concerned, in asking for this law. This is what we did not know, and to a very great extent this relieves us of a good deal that we thought would be expected of us in this matter.

I want to speak from the standpoint of a practical miner rather than from a scientific standpoint. I have had thirty-two years' experience in the mines in Indiana and about four years of the time as mine manager, and have tried to be a close observer of all these questions we have been discussing here, and the strongest point why we should have this law, it seems to me, is because of the division or the difference of opinion between the practical man and the scientific man. It is a hard matter in a great many circumstances to convince the practical miner that many of the theories of the scientific men are correct; in fact, it is an impossibility to convince us in many respects. We want to point to this fact to show that it is necessary for Congress to take this matter up and straighten it out, bring us together as practical men and as men with scientific knowledge. We do not believe it can be settled by States, because we see that in one State possibly the practical men will have the advantage in legislation and in others the scientific men, and we can not agree; so it will

be necessary, as a Congressman here suggested this morning, to bring the matter to a focus; in other words, bring these ideas together.

I might, just for illustration, as I do not want to take up much of your time, say that here is a scientific report of some explosion somewhere, and the cause of that explosion was black damp. You could not convince a practical miner in one hundred years that black damp would explode. In fact, when you break into old works you find black damp; you find it as a stone wall against the good air, just straight up and down. Six inches is good air, air passing along beating against that damp just like a wall. You pass your light from 6 inches here over, and the minute it strikes the black damp it will go out just as quick as the minute you put it in a bucket of water. It could not go out any quicker. You take it away a dozen times and light it and put it back and it will go out. You could not convince the miner that that would explode. Not only that, but in all the other things, dust explosion, and so forth. Will dust explode? How much gas does it take in addition to the dust to cause an explosion? You have read and heard all the theories and studied them, and they must be brought together by a powerful measure in some way that will bring it up to where they will understand it. There is not any question about the scientific man being wrong in many cases, and in many cases possibly the man who has the real practical knowledge does not understand it as he should—the gases and the formation of gases, and so forth. It is not necessary to discuss that.

I wanted to point this out for the reason that I wanted to impress upon this committee that it makes it more and more of a necessity that this should be done by Congress. The States can not do it; we are divided everywhere. We are divided in regard to a method of enforcing law. Many people believe, as Mr. Walker gave you a very broad illustration, that laws will not be enforced because officials are surrounded by certain conditions and by certain parties, or something that is tied to them, or a man is employed by a company. We have all these things to overcome. A man is employed by a company that might not want to go to an extra expense. As a practical man I have ideas; I have ideas as to explosions. We have gas in nearly all the mines in Indiana to a certain extent. You could not make me believe that the setting off of 8 or 10 or 15 kegs of powder would cause an explosion. I have worked in the mines when 600 men fired shots within five minutes, and never heard tell of an explosion in Indiana. For years and years—in fact, for the first fifteen years of my life—I never heard tell of a windy shot. That is what makes it necessary for Congress to handle this matter and bring this knowledge up together. With both the practical and the scientific knowledge it will have to be done in our State to give satisfaction, it can not be done in any other way; and I would not want to attempt to say just what ought to be done, but if we get the law I am satisfied that it will be worked out properly. For instance, we have a law that says an air shaft shall be sunk so many hundred feet away from the hoisting shaft for safety; that so much air shall pass around, so many hundred feet for a man and so much for a mule. We have those laws. Of course, as Mr. Walker says, in many respects the law is violated by the men and the company; both by the men and the company.

It seems to me it is almost impossible to live up to the law, both on the part of the miners and on the part of the operators. For instance, with such measures in force we could have two air shafts, one on each side, and the fan should throw the air down through a double air way, sending it up this way and pulling it out of the air shaft at shooting times. This fan would be reversible, so that if an explosion occurred it would be pulled away, the force of it would be pulled away from the men coming out of the hoisting shaft and give a great deal more air and better air. Nobody could fire a shot until the fans were reversed. Another method would be—of course it would cost—another fan shaft to be sunk, which would entail some expense, it is true. We can not correct this thing without expense; it can not be corrected by anybody without expense. The close competition that the operators have makes it necessary to give them due credit; it makes it necessary to cut the expenses in many cases. In some cases they are not justified in that, yet it is perfectly natural for everybody to make money if he can, perfectly natural, and he will do his best to make money. I do not want to incriminate anybody, but I am perfectly willing to say that both operators and miners violate the law in Indiana, and it would be right close to impossible for either of them to live up to the law strictly and absolutely.

I want to touch just one little point on dust. It is not my experience that any dust—coal dust—will not mix with water. It will stand quite a little while if a roadway is sprinkled, some particular coals, and the dust will float on top of the water. But if it is left there a short time, it will mix, it will soak through and get wet; that is my experience in the mines and I have had quite a good deal of experience. We find the method in England, one particular method that I remember, a case cited now in that respect where out under the ocean where they are mining coal for several miles, they pipe their entries, and those pipes have the very finest holes in them; they are filled with water, and it is just like a very fine spray all the time the mine is running, to keep down the dust. It is piped all over each entry, where this dust is. We have a good deal in Indiana to contend with, and sometimes it gives us some trouble; sometimes the miners refuse to work until the roads are sprinkled for fear of an accident.

Mr. WILSON. Has it been your experience that the introduction of a chain machine in the undercut of the coal creates a greater amount of dust than in the old method of pick mining?

Mr. VAN HORN. Yes; there is more dust.

Mr. CHANEY. I suppose one might say there is more picked up by a machine than there was before?

Mr. VAN HORN. It is the power, the mining by power.

Mr. ENGLEBRIGHT. What about these other machines, the punch machines?

Mr. VAN HORN. They do not raise as much dust as the chain machine. I think we have every kind of a machine in Indiana. Of course, as I have been handling their questions as president for five years past, I have had to deal with all of these questions; I have had to deal with every question of that kind.

Mr. BARTLETT. If you have reached the end of your train of thought on those matters, I would like to ask you a question that is a trifle foreign to it and I would like to have you gentlemen, who appear to

be representing various mine workers' associations and who from your years of experience seem to appreciate the necessity of having practical experience join hands with science, tell me from your consideration of this whole matter, have you considered the wisdom of putting this bureau into any particular department, and what are your reasons for it? In other words, do you believe it should be a part of the Department of Commerce and Labor or go into the Department of the Interior and become an adjunct of the Geological Survey? That is a matter I would like to have some light on. We are a unit as to the necessity of this bureau, but where we are going to place it is a question, not only with this committee, but it will be on the floor of the House. What is your opinion about that?

Mr. VAN HORN. Mr. Chairman, I only hope that the committee will be able to agree on that matter. I do not consider myself a competent judge in that respect.

Mr. BARTLETT. What is your idea about it?

Mr. CHANEY. Is it your idea, Mr. Van Horn, that the practical knowledge which you mention as being important should be founded and joined with the scientific and theoretical knowledge like that which is conducted at the Geological Survey of the Government?

Mr. VAN HORN. Yes, sir; I think that there is not a very good chance of getting results from a law of this kind without joining the two forces; that is my idea.

Mr. CHANEY. The question as to whether the practical carrying out of the law would be better in the Department of Commerce and Labor than in the Interior Department would depend upon whether it could be handled in one Department better than in the other?

Mr. VAN HORN. Mr. Chairman, I do not want to answer that question; I do not consider myself a competent judge. I would readily give you my idea if I felt that I was competent, but I do not feel that I am competent; I have not made that a study at all, not a bit. I possibly could have been prepared if I had known it was coming up.

Mr. BARTLETT. It was merely to get suggestions, if you had any. Mr. Walker, have you any ideas about that matter which you care to suggest to the committee?

Mr. WALKER. These are my views on the question: Every locality, almost every different section, has a difference in the strata. The work of the Geological Survey, as I understand it, is to be able to give a complete description of the different stratas that are met in the different localities, and so far as the work of maintaining a roof is concerned, particularly the roof, the knowledge that they get through their investigations of that strata would be of invaluable aid to the department of mining in providing for the best means of taking care of that roof. It would mean the saving of property for the company, the saving of expense, and the saving of life for the men.

Mr. WILSON. Do you believe, then, that no matter which Department a bureau of mining may be established in, that the Geological Survey, even though it might be separate and apart from the bureau of mining, should be in the same Department with the same head?

Mr. WALKER. I can not tell you anything about the relations which the Departments would have with each other, but I believe that the relations of these two departments ought to be so close that they can work in cooperation with each other.

Mr. HALL. Just one question. Which do you think the mining industry and the miners would be most benefited by, experiments and

investigations of a scientific nature by experts making tests concerning the explosive properties of dust, gas, and so forth, or by taking the statements of practical miners in the various mines as to what their theories are concerning the causes of these explosions? In other words, do you think that the miners need assistance most of a scientific nature or of an industrial nature to be of benefit?

Mr. WALKER. Well, they have the practical knowledge, so far as they can get it by their everyday work, and the other knowledge must come from the scientific end of the department. They have all the practical knowledge they can get by their actual everyday experience in the mines. The analysis of the different propositions they have to go up against, giving them their right names and what the effects will be, coming from the Geological Survey or from any commission that would be able to speak authoritatively on these questions, would be of benefit to them. They will have to get it from them; they can not get any more knowledge in a practical way than what they have. They have to get it from the man who is able to take it into the laboratory and dissect the whole proposition and give it to them in detail.

Mr. WHITE. May I have a word on that same subject and explain what I said this morning?

Mr. ENGLEBRIGHT. Certainly.

Mr. WHITE. I was asked this same question by the gentleman from Ohio, and my answer may have been misunderstood, as to whether these departments should be separate or not. I mean that they should not be put under different Cabinet officers. While the work of the new bureau of mines to be established, which we hope will be established, should be entirely separate as an organization from the Geological Survey, I think it would be a fatal mistake to put them under different Cabinet officers, and I think they should be under the same, because their work will necessarily overlap. For instance, this matter of the study of the strata, which is purely the study of the geologist.

Mr. CHANEY. That is an excellent suggestion of Mr. Walker, showing how closely the relations should be.

Mr. WHITE. Why duplicate and create additional expense when you have a trained scientific staff to do that same kind of work? If they are under the same Cabinet officer, he will so divide it, will have the power to do so, that there will be no duplication of work with that added expense, and all the additional knowledge that is rendered accessible by the work of the Geological Survey can be made available without any extra expense to this new bureau. It should be entirely separate in this new organization and have a head to it like the Director of the Survey, working under the same Cabinet officer, so that they can combine the work in this new department of the scientific workers and the practical workers and get the benefit of both. I think the Geological Survey is already in the Interior Department and has been so successful that it should be continued there; and if it is not, the Survey should be moved wherever you put this.

Mr. CHANEY. I want to say to you that Mr. Van Horn is known to us all out in Indiana to be a very practical man. I would like to have him state to this committee what advantage he thinks this scientific investigation and the propositions which could be embraced in a bureau of mines and mining would be to him.

Mr. VAN HORN. To the miners?

Mr. CHANEY. To you in your work.

Mr. VAN HORN. Oh, yes; I think it would be a very great advantage to everybody.

Mr. CHANEY. In what respect do you think it would be an advantage?

Mr. VAN HORN. First, of course, the saving of life; that is the first, of course; that is the greatest, and also the saving of property. I mean by that they would not have the property destroyed by explosions as we have them now in Indiana, once in a while, but we are having them protected as well as we can by having the shot firers.

Mr. CHANEY. How would a scientific study of the thing help you in those respects?

Mr. VAN HORN. In that respect we would be able to solve many questions. Our people believe a lot of things. For instance, you heard Mr. Walker's argument on the powder question; we have the same thing to contend with. We believe that the argument that the same ingredients are now in a keg of powder as were in it twenty years ago could not be correct, for 15 kegs of powder exploding in the same territory now cause an explosion when 50 kegs of powder did not cause an explosion fifty years ago. It would help us to discover whether it is in the powder or in the gas, the coal dust, or whatever it is. We know it is not in the black damp. These matters can be adjusted so it will help us to find out what it is, and we can better protect ourselves if laws will be passed; it will help us to get a good grade of powder and a good grade of oil, and then help us on the distinct proposition of what should be done by the operators. Of course it would be a very great help, just what the miners want, and I believe what the operator wants.

I believe it is what the operator wants because a law covering the whole field will not change the competitive basis, treating all alike; but if in one State you legislate, take 1 cent in this State and none in the other, it disturbs the competitive relations. I believe our operators will favor this. You see, they have gone with us a long way in this matter. We would like to go further in some respects, but we believe the matter will be solved if this can be put through. We believe it will be solved to the satisfaction of the people, or at least put us in the position where we can hereafter find out the defects and make corrections, but the way we are divided into States and differences of opinion prevents us, through the different legislatures, from getting these laws. We can not get them. We have just the same thing in Indiana as Mr. Walker said he had in his State, Illinois; we find that the laws are foolish in many respects. In some respects we might say they are foolish in not being severe enough on the operator; in other respects we might say they are foolish in not being severe enough on the miner. The legislatures, in their desire, right after an explosion, to pass laws to protect lives and limbs of and property of the citizens, have passed laws which did not fit the cases at all. I could name you some of them and could show you why, but I do not think it is necessary.

Mr. HALL. Generally, I presume, because they are laboring under some erroneous impression as to the cause of the explosion?

Mr. VAN HORN. Just so.

Mr. HAMILTON. And impressed at the time with the great desire to do something, and did not know what to do?

Mr. VAN HORN. Yes; they wanted to do something to relieve the situation.

Mr. CHANEY. You will understand, Mr. Van Horn, that Congress could go no further than to undertake the necessary development of scientific knowledge on this question, and that the States would, after all, have to supplement what might be done here in the police regulation of the mines and the work that would govern the operator and the miner. It would, after all, have to come from the State. We could not make a general law here that would apply to Indiana in the operation of the mines there, or any other State. The most we can do here is to endeavor to find out the causes of all these things by a scientific study and investigation of the underlying principles involved.

Mr. VAN HORN. Yes, I will admit that, but we believe that that will give us a chance to act as a unit in the different States.

Mr. BARTLETT. It would bring about a uniformity of action?

Mr. VAN HORN. We believe we could solve the problem, or you could solve the problem for us, and we could adopt it.

STATEMENT OF MR. J. M. CRAIGO, OF WEST VIRGINIA.

Mr. CRAIGO. Mr. Chairman, I do not see much that is left for me to say. Almost everything that I can think of why this bill should pass has been said, and there have been several things brought out that I never thought of before. One thing, especially, Mr. White brought out, about the waste, and he mentioned about commencing at the bottom of a hill and taking out big seams of coal first. Naturally, I then got to thinking that if you take out a large seam of coal down at the bottom, work it out, and the mine would be abandoned, if it generated gas, and when you went to working out one above that, that old mine would be full of gas and the rocks between the two seams be cracked, fissures running through it, and there would be no place for that gas to go except up into the other seam that would be working. That is one danger that I had not thought of that was brought out by Mr. White.

I know that the miners in West Virginia are a unit, and I suppose, perhaps, for all I know, in other places, in wanting this bill passed, first, for the saving of life. There is not a State in the Union that has had as many explosions recently as West Virginia has had. I think we have had five in the last year, and in one, as Mr. Flemming said this morning, 350 people were killed. Almost a year ago there was a commission appointed by the legislature to make investigations and recommend some bill to the legislature that would prevent that, but as yet it has never been found out definitely, that is, satisfactorily, what caused the explosions. That alone, that terrible loss of life just in that one State, surely would get us in that State terribly in earnest, when we would want the National Government to make this bureau to find out some means to prevent these explosions.

I do not know of any theory that I could advance, but I think that I could just make it short, reiterate or emphasize practically everything that has been said here from our side—that is, I mean from the

practical miners' side. I do not know anything about the scientific side of it; I never studied that any. Since I was 12 years old I have been making a study of the practical side of it. When we can not find out the cause of the explosions, then I think there should be a joining together of the practical and the scientific forces to find out some means to prevent these explosions. As I told you, I do not deem it necessary for me to take up any time when practically everything that I would have to say would be in fact repeating what some one else had said, because everything I could think of, every reason why this should be passed, has been said. I think that the operators and the miners of our State are united in asking that this department be made at this term of Congress. I think it is the most important thing there is claiming the attention of this session of Congress.

Mr. Chairman, I do not think of anything else now that I wish to say, as I do not want to take up your time repeating.

Mr. HALL. Evidently one of the principal questions that this committee will have to determine is whether this bureau should be connected with the Interior Department, in which is the Geological Survey, or whether it should be connected with the Department of Commerce and Labor. Those who advocate its connection with the Interior Department do so upon the theory that the investigations should be of a scientific nature. Those who advocate its connection with the Department of Commerce and Labor claim that the investigations should be of a practical or an industrial nature. Which, in your opinion, as a practical miner, would be of the most assistance to the mining fraternity, both from the standpoint of the operator and of the miner, investigations of a scientific nature or investigations of an industrial nature?

Mr. CRAIGO. I had never thought of that until I heard it talked of here, but it seems to me that investigations of a scientific nature would render all of us concerned more assistance. If this other is under the supervision of the Interior Department, it seems to me that this should be, that they both should be under the supervision of the same Department.

Mr. WILSON. If the bureau of mining is placed under the Department of Commerce and Labor, would there not be a greater tendency toward its giving attention to the commercial end of the mining rather than to the protection of life, limb, and property, than what there would be if it was under the Department of the Interior?

Mr. CRAIGO. If this other is in the Department of the Interior, the Geological Survey, it seems to me that you would do more good by having them both there than by having one under one and the other under another—one under the Interior Department and the other under the Department of Commerce and Labor. It seems to me as if they could work better if closer together; they could do more good than they could one under one Department and the other under another.

Mr. VAN HORN. From the questions asked by the gentleman, it seems to me that I must have been misunderstood. I do not want to be understood as saying that this investigation should be done just from a practical standpoint.

Mr. ENGLEBRIGHT. We did not understand you so.

Mr. VAN HORN. I did not mean it that way. I want the scientific investigation in order to assist those who have the practical knowledge. We have studied it for years, and, as Mr. Walker said, we have gathered what knowledge we could and gone as far in legislation as we can, until we get the scientific proposition on a basis where we can handle it.

Mr. ENGLEBRIGHT. I think we understood you thoroughly on that point.

Mr. VAN HORN. Just one word in addition to the gentleman from West Virginia. I might say there is a large amount of coal in Indiana lost from the very same reasons he says it is lost in West Virginia. We have eight veins of coal in Indiana. I do not mean by that that we have eight veins all in one place. We have No. 1 to No. 8. In many cases, though, we have two, three, four and five veins in one place, and there has been a great loss in Indiana in that respect already, and there will possibly be a great deal more. The desire is to get to the big vein; if there are two or three on top, mine it, because it can be mined cheaper and there will be an advantage in the market. That is the disposition in Indiana, and I presume that is the disposition in all other States.

Mr. ENGLEBRIGHT. I think this committee understands the question of the waste much better than they did this morning.

Mr. BARTLETT. You think, do you not, that in addition to the protective features of this proposed bill, such a bureau would be of very material aid in developing the mineral resources and mining enterprises generally, do you not?

Mr. VAN HORN. Oh, yes; yes, sir.

Mr. BARTLETT. You think it is a very important bureau for that purpose?

Mr. VAN HORN. Yes, sir; and very badly needed.

Mr. ENGLEBRIGHT. Of course we have been discussing practically coal mining to-day. What effect do you think such a bureau would have on other classes of mining?

Mr. VAN HORN. On metal mining?

Mr. BARTLETT. Yes; gold, silver, lead, and copper?

Mr. VAN HORN. I do not see that it could have anything but a good effect. It appears to me that work done on this line could hardly help benefiting the other trades.

Mr. ENGLEBRIGHT. Of course the miners in the West have been advocating a bureau of this kind for a great many years with a view, of course, of helping out the metal men. Of course they are anxious to join with the coal miners in having a bill passed which will include all the interests in one bill.

Mr. WILSON. I may say that the miners in the East have for a great many years desired a department of mines and mining, but they are modifying their position now, because they believe there is a greater likelihood of getting a bureau within one of the Departments than there is of getting a department. Something of the kind is absolutely necessary; so that we are simply modifying our plan, the desire to have a department, to having a bureau, because it seems to me to be more in practical lines.

Mr. VAN HORN. I may suggest, Mr. Chairman, to that that it does not miss the miners of the West, especially the Central States. We

believe, all of us, that we should have a law and handle the whole question—the entire mining question. The iron-ore mines of this country need something like that very badly, and they have a great deal to contend with in that respect. I am sorry to say that we are possibly trying to take the advantage that is given us to get relief in this direction through the terrible calamity that has overtaken us. That is what we are trying to do, without hiding it.

Mr. HALL. Can you tell us offhand what the percentage of these explosions is in coal mines as compared with explosions in metal mines—iron, gold, silver, etc.?

Mr. VAN HORN. I think they are much greater; I do not know: I could not give you the exact figures, but they are much greater.

Mr. HALL. Thus indicating that it is something pertaining to the properties of the coal?

Mr. VAN HORN. There are some in the metal mines, though, that are disastrous.

Mr. WILSON. Is it not a fact that the very nature of coal itself is more conducive to the explosion of gases than of iron or the other minerals?

Mr. VAN HORN. That is a fact known by everybody, I presume.

Mr. WILSON. I would say, so far as I am concerned, I believe that the bureau should be in the Department of the Interior. I have listened to the statements that have been made here this afternoon in connection with the matter, and I am firmly now of the opinion that it should be in the Department of the Interior. I fear that if it is placed in the Department of Commerce and Labor it will simply be used for the purpose of the extension of trade and the promotion of trade rather than for the protection of life, limb, and property, as it really should be. The most crying need, so far as the coal trade is concerned, is some means of securing information by which health, limb, life, and property may be properly protected in the coal mines, and at the same time that it is true of coal mining it would also, to a lesser degree, be true of mineral and quartz mining; and for those reasons I am now firmly of the opinion that the bureau should be established in the Department of the Interior.

Mr. BARTLETT. We are determined, of course, that the Geological Survey and this bureau should be in the same family. Now, then, as a matter of legislative expediency, do you not think it easier to put this bureau in the Department of the Interior than it would be to pass a bill removing the Geological Survey with this bureau into the Department of Commerce and Labor?

Mr. ENGLEBRIGHT. Notwithstanding the fact that Mr. Douglas asserted that the law creating the Department of Commerce and Labor provided that mining should be within its jurisdiction. The law that specifies that is not a constitutional law, and Congress may place a bureau within any Department, in which, in its judgment, it deems advisable to place it.

Mr. BURKETT. I heartily agree with you.

Mr. CALBREATH. It occurs to me, as an additional reason to those that have been given, that the Department of the Interior is a department whose duties are greatly lessening as the territorial government of the country lessens. In that view of it, the time will come when the Department of the Interior will have little to do, while the

Department of Commerce and Labor will necessarily extend. We have for years been with you in demanding a department of mining. It may be that the feeling that no further department should be created will work out in this way, that finally the Department of the Interior will practically become a department of mining, and therefore it seems to me an additional reason why the Department of the Interior should have this extra bureau.

STATEMENT OF MR. F. J. DRUM, PRESIDENT OF THE MARYLAND MINERS' UNION.

Mr. DRUM. Mr. Chairman, I am from Maryland, which is a State to which explosions are foreign, such as these gentlemen have been talking about, and I think myself that the department that has been so much discussed to-day should be established for the protection of life, limb, and property. In my experience in the George Creek mines, and I have worked there for twenty-six years, the destruction of coal, in my opinion, is one of the reasons, along with the protection of life and limb, that this department should be established. I know from my experience in the time I have mentioned, in the mines, that there have been thousands and thousands of tons of coal destroyed in these mines, and of course if there had been a department of this kind to look after it, it seems to me it would have been a great benefit to the community at large, because, as time goes on, we find that this coal is very fast becoming extinct. I do not know there is much more I can say to you gentlemen in addition to what these gentlemen have said here to-day. I do not want to detain you any longer on the question. If there is any question that you would like to ask, I would be perfectly willing to answer it as best I know how.

Mr. ENGLEBRIGHT. Have you any gas wells in your locality?

Mr. DRUM. No, sir.

Mr. BARTLETT. You agree generally with the statements made by the other gentlemen?

Mr. DRUM. Yes, sir.

Mr. BARTLETT. I guess we are all a unit.

Mr. HALL. Evidently, one of the principal questions that this committee will have to determine is whether this bureau should be connected with the Interior Department, in which is located the Geological Survey, or whether it should be connected with the Department of Commerce and Labor. Those who advocate its connection with the Interior Department do so upon the theory that the investigations should be of a scientific nature. Those who advocate its connection with the Department of Commerce and Labor claim that investigations should be of a practical or an industrial nature. Which, in your opinion, as a practical miner, would be of the most assistance to the mining fraternity, both from the standpoint of the operator and of the miner, investigations of a scientific nature or investigations of an industrial nature?

Mr. DRUM. I should think it ought to be connected with the Interior Department, because of the fact that the department looking after the scientific part and the department looking after the practical part ought to be together.

Mr. HAMILTON. Would there not be some danger of the whole thing becoming scientific and losing sight of the practical side of the thing, if you get into that?

Mr. DRUM. It seems to me that it ought to be fixed so that that could not be.

Mr. HAMILTON. That, as I understand, is Mr. Douglas's position, to put that into the Department of Commerce and Labor along with this bureau now being established.

Mr. DRUM. As I understand it, they will be under the Interior Department, but both distinct, and they would help each other out. That is my idea of it.

Mr. WALKER. Mr. Chairman, the miners and the operators, as the thing stands now, are both, I think, about as thoroughly informed on the practical phase of the situation as they can get to be. They will all be here while this bureau is in operation, and any scientific propositions advanced by the bureau that are founded on false premises will, I think, be exploded very quickly, before they are enacted into law. I expect both sides would be asked to appear before committees that had those things in charge.

Mr. HAMILTON. The question is this. Mr. Walker, as I understand, as to the two different theories. We have four bills, one from Mr. McHenry, one from Mr. Englebright, one from Mr. Douglas, and one from Mr. Chaney. Mr. McHenry's and Mr. Douglas's bills both provide that the bureau shall be made a bureau in the Department of Commerce and Labor. The other two provide that it shall be a bureau in the Department of the Interior. As I understand the views of the gentlemen who think that it ought to go into the Department of Commerce and Labor, it is just that fact that determines their minds, that we want a bureau which will go into the practical side of the matter so that it will not become overshadowed by the scientific investigations.

Mr. WALKER. The scientific theory is one that is founded on a correct premise, and if it is not founded on a correct premise, it is neither scientific nor practical.

Mr. HAMILTON. It is true, as a matter of fact, that science very often has to succumb to the practical knowledge of a man who has been there.

Mr. WALKER. Science only succumbs, when you try to put it into practical operation, when it is founded on a false premise.

STATEMENT OF MR. JAMES PURCELL, OF CLEARFIELD, PA.

Mr. PURCELL. Mr. Chairman and gentlemen of the committee, like my friend Drum, I have been raised in the coal-mining industry, where we have not had very much gas in the mines, and consequently very few, or very rare, explosions. I have neither a practical nor a scientific knowledge of gases, as I was always considered too much of a coward to go to work in any place where there was any danger from the effect of those gases exploding. At one time in our field, I remember, I think it was in 1888 or 1889, I worked in a mine where they claimed that there was a dust explosion. I did not happen to be there when the explosion occurred, but I worked in the mines afterwards and whether it was a dust explosion or what caused the

explosion has been a mystery to me. But there has not been an explosion in the mine since, and it has been working practically every day, and there have been no precautions taken other than what had been taken previous to the explosion. In our State, which is close to the seaport towns, naturally a great many foreigners, when they come to our country, are taken into the coal region, and I believe that I would be pretty nearly safe in saying the same as those other two gentlemen have said, that there is not a practical coal miner in our particular part of Pennsylvania who lives up strictly to the letter of the law.

Mr. HUFF. Why do you not enforce the law?

Mr. PURCELL. I might ask you the same question.

Mr. HUFF. We do.

Mr. PURCELL. You would be in a better position than I. The law requires, as my friend Mr. Huff will admit, in central Pennsylvania, that no man shall have a place to work unless he is capable of taking care of himself. I believe I am safe in saying that in a great many instances, pretty nearly all the operations, and I believe in Mr. Huff's operations, if they do not hire those foreigners when they come there and put them in a place to work regardless of the fact that they are not able to take care of themselves, it is an exceptional case. The last legislature we went to Harrisburg and tried to have a law enacted for the benefit of the miners in the gaseous mines in Pennsylvania, and we tried to have a competent law passed, that a man before he could be required to work in the gaseous mines should stand an examination as to his competency, would have to have practical knowledge of mining before he would be allowed in those mines. We were unable to get the bill from the committee, and I do not know whether, if the bill had been passed and put into effect, it would have stopped some of the explosions that we unfortunately have had since that time. I, like the rest of them, believe that if there is anything that can be done by Congress to reduce the percentage of people being killed and maimed in the mines throughout the United States, whether it would be through a bureau of this kind or some other way, I feel, as a representative of the mines and the citizens of the United States, that it should be done.

I do not know that I have any more to say. In regard to this question as to where it should be placed, I believe it ought to be placed in a way so that when there is any examination as to the causes of those explosions that it should neither be left to the practical side nor to the scientific side to judge; but I believe it ought to be judged by both of them, and I think, if the bill is passed, it ought to be arranged so that when those examinations are made both sides would be parties to the examination, whether it would be in the Department of Commerce and Labor or the Interior Department. I believe that it ought to be so that when there is any examination made both of those would be there at the examination and each side give its view, both the practical and the scientific side of it.

(Thereupon, at 5.10 o'clock, p. m., the subcommittee adjourned.)

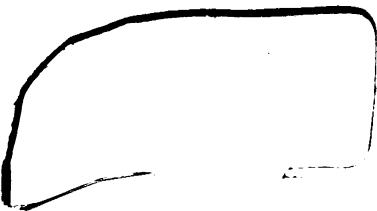


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